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Table of Contents

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ORIGINAL ARTICLES— Page

A Survey of the Nephrotic Syndrome as Seen at the Royal Children's Hospital, Melbourne, in the Past Ten Years, by J. H. Coldbeck 577

Lymphosarcoma of the Thymus: Its Relation to Acute Lymphatic Leukæmia, by Reginald Webster 582

The Problem of Alcoholism in Australia and England, by C. G. Judge and M. M. Glatt 586

The Treatment of Alcoholics in a Public Mental Hospital, by M. M. Glatt and C. G. Judge 590

REVIEWS—

A Handbook of Diseases of the Skin 592
The Diabetic Life 592
Emergencies in Medical Practice 593
Clinical Obstetrics and Gynecology 593
The Foot and Ankle 593
Contributions to Obstetrics and Gynæcology 593
Essentials of Orthopædics 594
Diabetes 594

BOOKS RECEIVED 594

LEADING ARTICLES—

A Call from Cardiology 595

CURRENT COMMENT—

Chemotherapy in the Treatment of Acne 596
Longer Life through Drugs 597
Experimental Trachoma Produced by a Western Australian Virus 597

ABSTRACTS FROM MEDICAL LITERATURE—

Medicine 598

MEDICAL SOCIETIES— Page

Pædiatric Society of Victoria 600

OUT OF THE PAST 601

CORRESPONDENCE—

Vaccination in Influenza: Public Health Aspects .. 601
The Pattern of Medical Practice in Australia 601
An Australian Medical Association 603

OBITUARY—

George Simpson 603
John Ross 605

POST-GRADUATE WORK—

The Melbourne Medical Post-Graduate Committee 605
Seminars at Sydney Hospital 606

ROYAL AUSTRALASIAN COLLEGE OF SURGEONS—

Faculty of Anæsthetists 606

NOTES AND NEWS 606

NAVAL, MILITARY AND AIR FORCE—

Appointments 607

DISEASES NOTIFIED IN EACH STATE AND TERRITORY OF AUSTRALIA 607

AUSTRALIAN MEDICAL BOARD PROCEEDINGS—

New South Wales 607

NOMINATIONS AND ELECTIONS 608

DIARY FOR THE MONTH 608

MEDICAL APPOINTMENTS: IMPORTANT NOTICE .. 608

EDITORIAL NOTICES 608

A SURVEY OF THE NEPHROTIC SYNDROME AS SEEN AT THE ROYAL CHILDREN'S HOSPITAL, MELBOURNE, IN THE PAST TEN YEARS.[1]

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THE purpose of this survey was to establish the over-all picture of the nephrotic syndrome as seen at this hospital. The period under study was from January, 1950, to December, 1959. The survey also aimed at determining what happened to the patients with the nephrotic syndrome, and some attempt was made to correlate the results with the treatment given.

A total of 117 cases of the nephrotic syndrome have presented in the past 10 years, and these form the material being studied.

Medical Diseases of the Kidney.

By way of an introduction, in an attempt to give some perspective and also to define the diseases not being discussed here, let us consider the clinical pattern of medical diseases of the kidney as exemplified at this hospital over the past 10 years.

Acute Glomerulonephritis.

There have been more than 50 new cases of acute glomerulonephritis per year. The disease usually followed a beta-hæmolytic streptococcal upper respiratory infection, with macroscopic hæmaturia ("smoky urine") as the presenting symptom. Usually some associated mild œdema was present and some degree of hypertension. The patients were usually older children in the five to thirteen years age group. The majority recovered completely; some had recurrent episodes of hæmaturia, but eventually recovered completely. A few developed chronic renal insufficiency after a single acute attack, or recurrent acute attacks. An occasional death occurred in the acute stage from congestive cardiac failure, hypertension or anuria.

Latent Chronic Glomerulonephritis or Subacute Glomerulonephritis.

Approximately three new cases of latent chronic glomerulonephritis or subacute glomerulonephritis were diagnosed each year. The patients presented with mild to moderate œdema of the face and ankles, microscopic hæmaturia, slight to moderate albuminuria, a slight elevation of blood pressure and slight elevation of the blood urea level. These, too, were usually older children, and

[1] Read at the Symposium on the Nephrotic Syndrome held by the Pædiatric Society of Victoria in August, 1960, at Melbourne.

their disease ran a progressive course, usually over several years, to chronic renal insufficiency.

Chronic Glomerulonephritis.

Approximately three new cases of chronic glomerulonephritis were diagnosed each year. The patients presented with mild to moderate œdema, slight to moderate albuminuria, moderate to severe hypertension and moderate to extreme elevation of the blood urea level. Many showed retinal changes. The disease either arose as an insidious onset of chronic renal insufficiency (the subacute picture), or followed an initial episode of acute glomerulonephritis.

The Nephrotic Syndrome.

Approximately 12 new cases of the nephrotic syndrome were diagnosed each year, and the patients were usually younger children. They presented with moderate to severe œdema, moderate to severe albuminuria, hypoproteinæmia and hypercholesterolæmia.

Other Diseases.

Among other "medical kidneys" we include pyelonephritis, acute tubular necrosis—for example, after severe gastro-enteritis with dehydration, acute focal nephritis—for example, from acute bacterial endocarditis, hæmaturia as part of the Henoch-Schönlein syndrome and polyarteritis nodosa. All these disorders were much less common than the four conditions discussed.

The Nephrotic Syndrome.

The total number of patients exhibiting the nephrotic syndrome examined over this ten-year period was 117. Of these, 69 (approximately 60%) were males and 48 (approximately 40%) were females. The over-all ratio of males to females was 3:2.

The number of new cases diagnosed each year, as shown in Figure I, averaged 12 during this ten-year period. There was no seasonal incidence, the presentation of new cases being spread evenly over each year. There would appear to be an increase in the number of new cases per year towards the end of the survey period, but this probably corresponds to the increase in the total number of patients examined at the hospital in recent years.

Ætiology.

The following diseases have been described as causes of the nephrotic syndrome: (i) Membranous nephritis or pure nephrosis; (ii) disseminated lupus erythematosus; (iii) polyarteritis nodosa; (iv) diabetes mellitus; (v) chronic pyelonephritis; (vi) amyloid disease; (vii) secondary syphilis; (viii) renal vein thrombosis; (ix) lead poisoning; (x) mercury poisoning; (xi) acute glomerulonephritis. Drugs have also been incriminated, particularly "Tridione". However, in the majority of cases the nephrotic syndrome in childhood is said to be due to membranous nephritis, and this has been our experience.

In this series there were two cases of the nephrotic syndrome which had its onset while the patients were taking "Tridione". One case was of a boy, aged 12 years, who had been taking "Tridione" for several months for petit mal. When he stopped taking the drug, his nephrotic syndrome cleared spontaneously, and he has had no recurrence for over 12 months now. He did not have steroids. The other case was of a boy, aged seven years, who had been taking "Tridione" for 15 months for petit mal. He did have cortisone initially, and he has been followed for five years without evidence of recurrence.

In the series there were two cases of the nephrotic syndrome probably following acute glomerulonephritis; in one case three months, and in the other five months elapsed before the onset of the nephrotic syndrome. The patients were not examined at this hospital during the acute episode and accurate documentation is not available.

One girl, aged 14 years, suffering from disseminated lupus erythematosus and with a probable nephrotic syndrome, was admitted to the convalescent section of the Royal Children's Hospital, where she died. Unfortunately the details of her illness are not available, as she was treated outside the Royal Children's Hospital and was admitted in the terminal stages of disseminated lupus erythematosus. She is not included in the series.

Age and Sex Incidence.

The age and sex incidence is shown in Figure II. There is a maximum age incidence in the nought to four years group; in fact, in patients below the age of four years there were 74 cases—that is, approximately 63% of the total number of cases.

The over-all sex incidence was 69 males to 48 females—that is, a ration of approximately 3:2 in favour of males. However, in the under twelve months group, the ratio was approximately 3:1 in favour of females. Also of interest is the fact that in patients under the age of six months there were three cases; one was a case of congenital nephrotic syndrome diagnosed five days after birth, and the other two cases were of a brother and sister.

Family History.

The series contained two families with two siblings in each with the nephrotic syndrome. In one family the boy presented at the age of five months. He is still being treated and has had intermittent steroid therapy. He has been followed for twelve months and at present is very well. His sister presented at the age of one month. She had steroid therapy, but died at the age of three years with chronic renal insufficiency and pneumonia.

In the other family, the girl presented at the age of 21 months. She was given steroids, but died six months later. The autopsy diagnosis was "nephrosis, hypoproteinæmia, pulmonary œdema". Her brother presented at the age of almost seven years. He was given steroids, but died 21 months later with chronic renal insufficiency and a cerebrovascular accident. The autopsy diagnosis was "chronic nephritis, hypertension".

Our experience is in agreement with that of Vernier, who found that, in familial cases, the onset of the disease tended to be earlier and the illness more severe.

Past History.

Examination of the past history, including any infections during the preceding month, revealed no significant information. In 24 cases (approximately 20%) there was a history of recent upper respiratory tract infection or of one of the infectious diseases that are particularly common in children. Eighty *per centum* had no significant past history or a history of recent infection.

Mode of Presentation.

In practically every case the child presented with a five to ten day history of puffiness of the face, being generally off colour, irritable, anorexic and miserable over this period or for a slightly longer time. Many of the children were noticed to have increase in weight and to be passing less urine than normal, and in some cases the urine was noted to be darker than normal. (This was concentrated urine, since no patient in the series had macroscopic hæmaturia.) Other common presenting features were pallor, vomiting, diarrhœa and fever.

Physical Examination and Special Investigations.

On physical examination, œdema was found to be present. This varied in degree from mild to moderate œdema of the face and ankles to severe, generalized œdema with ascites and, often, associated small pleural effusions demonstrated clinically or radiologically. Albuminuria was also present; this ranged from "one-quarter" to "solid" when the patient first presented. The blood pressure was generally normal or slightly elevated.

The normal values for serum proteins are: total 6·5 to 7·5 grammes per 100 ml.; albumin, 4·5 to 5·5 grammes per 100 ml.; globulin, 1·7 to 3·0 grammes per 100 ml. When the patients presented, their total serum proteins ranged from a level of 3·0 grammes per 100 ml. to a normal level.

Some of those with a normal level initially, later had a lowered level. Others with a normal level either had an albumin-globulin ratio or an electrophoretic pattern which was typical of the nephrotic syndrome. Electrophoresis of serum has been routinely used as a test only since 1955; prior to that estimations of the total serum protein, the albumin level and the globulin level only were made. Electrophoresis has played an important role in the diagnosis of the nephrotic syndrome, the typical nephrotic pattern being of a lowered albumin level and a raised alpha, globulin level. It is also of value in assessing progress; not only is a return to a normal value of the serum proteins a good sign, but a return to a normal electrophoretic pattern is the ideal.

The normal value for serum cholesterol in adults is 170 to 200 mg. per 100 ml.; in infants it is 80 to 125 mg. per 100 ml. In this series the average level was 300 to 400 mg. per 100 ml., the highest value being 1600 mg. per 100 ml.

Other investigations performed included microscopical examination of the urine; the microscopic findings ranged from normal to a few red blood cells and a few casts per high-power field, up to 100 or so red blood cells and many casts per high-power field. These casts were hyaline or granular in most specimens, and most examinations were performed on centrifuged specimens.

The blood urea level (normal value 25 to 40 mg. per 100 ml.) was generally normal or slightly elevated. The blood sedimentation rate was generally elevated in the active stages. Examinations of the blood and throat swabs yielded no characteristic results.

Complications.

Infection.

One of the main complications was severe infection, which necessitated admission to hospital. These patients were admitted to hospital because of the infection, although in many cases there was an exacerbation of symptoms of the nephrotic syndrome as well. Fifty-one patients were admitted to hospital because of severe infections, often on several occasions. The total number of admissions which were made primarily because of infection, or because of severe infection with exacerbation of symptoms, was 86. The commonest infections were chest infections, peritonitis, gastro-enteritis and others.

Chest Infection.—Chest infections were usually pneumonia or bronchitis, often recurrent in the latter case. There were 27 hospital admissions for this group.

Peritonitis.—Peritonitis occurred in 18 patients, several having peritonitis on two or three occasions. There were 25 hospital admissions for this group. The organisms involved were pneumococcus (five cases), *Bacterium coli* (one case) and *B. coli* and pneumococcus (one case), while in 18 cases no organisms were isolated. Peritonitis was twice as common in boys as in girls. Twelve boys had peritonitis at least once, but none died. Six girls had peritonitis at least once and three died. The incidence of peritonitis each year was much the same, although perhaps it is decreasing now. Certainly as a cause of death it is now uncommon.

Other Infections.—Other infections which necessitated admission to hospital included the common infections of childhood seen at the hospital during any one month—gastro-enteritis, upper respiratory tract infection, the infectious diseases, appendicitis and, in one case, meningococcal meningitis. Some of the patients actually developed infections while in hospital—varicella, measles or pneumonia—and one patient developed meningococcal septicæmia. There were four patients in the wards who were not responding to diuretic measures and who developed measles, after which they had a considerable diuresis. In each of these cases the remission was only temporary.

The Incidence of Infection.—The over-all incidence of infection remains much the same over each year of the survey period. Some cases of infection are probably prevented by the prophylactic use of penicillin, but this was impossible to assess. Also, more cases of intercurrent infection are being treated outside the hospital with broad-spectrum antibiotics at the present time than earlier. However, the control of infection has increased in recent years with the availability of the newer antibiotics, and infection as a direct cause of death is now uncommon.

Severe Œdema, Ascites and Pleural Effusion.

Severe œdema, ascites and pleural effusions are still seen, but in most cases are better controlled with steroids.

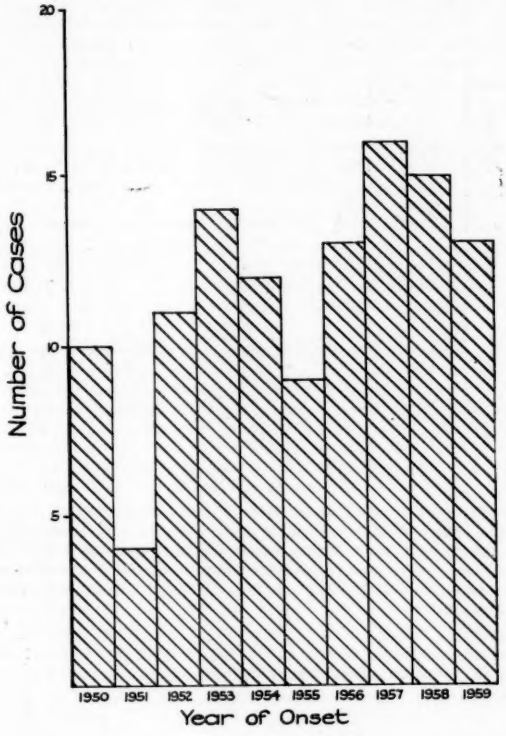

FIGURE I.

Paracentesis abdominis has been performed only once in the last three years of the survey period, and that was for diagnostic purposes in a case of peritonitis.

Dehydration.

Although not a common complication, dehydration is stressed here because, in the œdematous patient, the dehydration may be overlooked until the patient has peripheral circulatory failure. There were five patients in the series who developed gastro-enteritis and required intravenous therapy to correct the resultant dehydration. Four of these patients were œdematous at the time, and the fifth one developed gastro-enteritis immediately after a considerable diuresis.

Sagittal Sinus Thrombosis.

Sagittal sinus thrombosis complicated one case in the series, possibly in association with unrecognized intercurrent infection.

Death Rates.

Number of Deaths.

The total number of deaths, as shown in Figure III, was 27, of which 17 were of males and 10 were of females. Of

the total 117 patients in the series, all but 16 have been followed to December, 1959. The remaining 16 patients cannot be traced. Thus, for the 101 cases that have been followed to the end of the survey period, the over-all mortality rate was approximately 27%. From the records of the 16 patients who cannot be traced, one would not expect more than perhaps two or three to have died, but, of course, one cannot be sure of this. The mortality rate for males and females was much the same over all. The mortality rate for males was 27% and that for females was 25%.

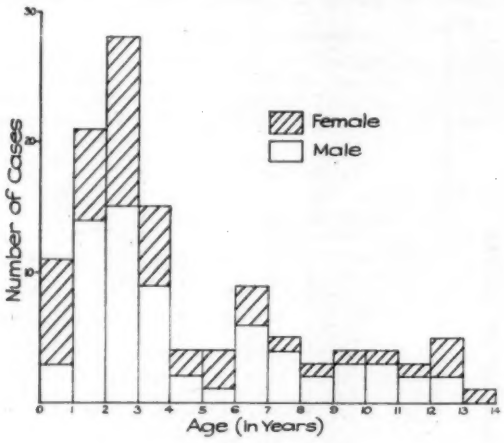

FIGURE II.

Causes of Death.

Infection.—Death was directly due to infection in five cases, four of these deaths occurring in the first half of the survey period. The infection concerned was peritonitis in three cases, gastro-enteritis with dehydration and shock in one case, and pyonephrosis with right-sided empyema in the other case.

Chronic Renal Insufficiency.—Chronic renal insufficiency was the cause of death in 20 cases, with or without associated terminal bronchopneumonia.

Unknown.—In two cases of patients who died outside the Royal Children's Hospital, no cause is known and no autopsy was performed.

Number of Deaths in Relation to the Year of Onset.

The total number of cases diagnosed each year appears to be increasing, but there has been no proportional increase in the mortality rate. If anything, the mortality rate appears to be decreasing, but it was not possible accurately to assess the role of steroids here. The number of deaths resulting from infection has decreased, so this is one factor in the reduction of the death rate.

Treatment.

The treatment of the patients in the series has involved diet, fluid restriction, diuretics, the treatment of infections and the treatment of other complications.

Diet.

A high-protein, low-salt diet has been standard practice at the hospital over this ten-year period. Patients who were developing, or who had developed, chronic renal insufficiency were usually given a normal diet with a low salt content.

Fluids.

A daily fluid-balance chart has been kept, and in general the fluid intake has been restricted or else the patient has been allowed fluids as desired.

Diuretic Methods.

Diuretic agents have varied and have included the following: Southey's tubes, paracentesis, intravenous concentrated albumin, mercurial diuretics, exchange resins, "Diamox" or "Cardrase", chlorothiazide and steroids. The steroids used have been cortisone, "Delta-cortef", prednisone, prednisolone and triamcinolone. In many instances the diuresis occurred spontaneously. In approximate figures, there were a total of 170 diuretic episodes, and approximately 60 of these occurred spontaneously.

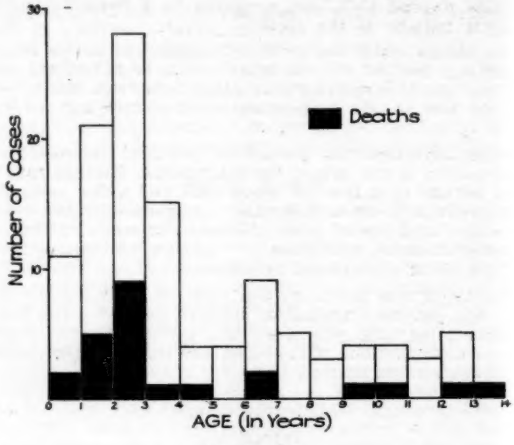

FIGURE III.

Treatment of Infection.

Most antibiotics have been used in the treatment of infection, the selection usually being governed by sensitivity tests. The treatment of peritonitis has been with appropriate antibiotics after a diagnostic paracentesis. A few patients with peritonitis had a laparotomy performed. Sulpha drugs or orally administered penicillin have been widely used for prophylaxis against infection over most of the survey period.

Treatment of Complications.

Hypertension, congestive cardiac failure and renal insufficiency have been treated along routine lines for the particular complication when it occurred.

Follow-Up.

The outcome of the illness of these 117 patients can be viewed in two different ways.

Firstly, as shown graphically in Figure IV, the survey period may be divided into two five-year periods. During the first five years (when steroids were not freely available, or were not available at all, and antibiotic therapy was more limited) there were 52 patients, of whom 11 have not been followed up. Of the 41 followed up, 17 died, so the mortality rate for the first five years was approximately 43%.

During the second five years of the survey period (when steroids were freely available, when the range of antibiotics had increased, and when the general standard of patient care was better) there were 65 patients, of whom five were not followed up. Of the 60 patients followed up, 10 died, so that the mortality rate for this second five years was approximately 16%. If one excludes the 13 new cases diagnosed during 1959, who have been followed for less than a year to the end of the survey period, the mortality rate rises to approximately 21%.

Thus, it may be seen that the mortality rate in the second half of the survey period was approximately half that of the first half of the survey period.

The outcome of the illness of the 117 patients can be viewed in another way. Of the 117 patients in the survey, 16 cannot be traced. Of the remaining 101 patients, 27 have died from the causes mentioned above. In four cases the disease has progressed to chronic renal insufficiency. Twenty-six patients have been followed who have been regarded as cured for more than a year, and of these, 12 have been clear for more than five years. None of these 26 were given steroids. Eighteen patients have been followed who have been regarded as cured for more than a year, and of these, three have been clear for more than five years. Each of these 18 patients had some form of steroid therapy at least once. There were 13 patients who

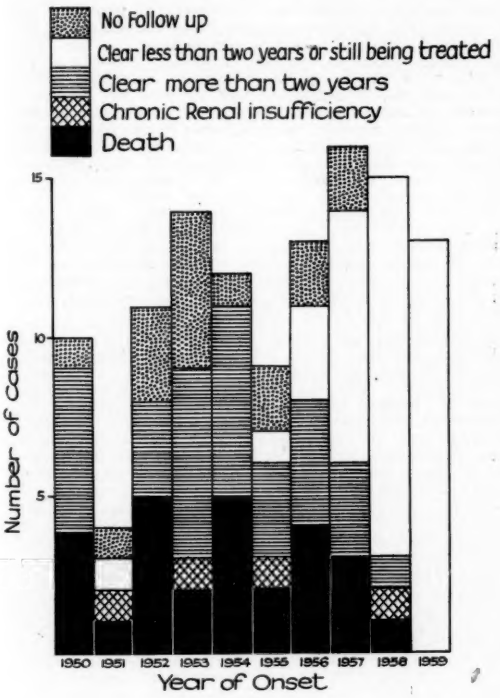

FIGURE IV.

were still being treated at the end of the survey period after more than 12 months' intermittent steroid administration. Finally, there were 13 new patients examined during 1959, all of whom received steroids, but who had been followed for less than 12 months.

Results of Treatment with Special Reference to Steroids.

Steroids have been used in the following ways: (i) to produce a diuresis; (ii) as short-term therapy after discharge from the ward; (iii) as long-term therapy, either continuous or intermittent.

Because the nephrotic syndrome in childhood is a serious illness, it is one that generally requires active treatment. For this reason, there has been no untreated control group under observation at the same time as those receiving steroids. The control group comprises those patients seen in the first half of the survey period when steroids were not, or were not freely, available.

Some problems in assessing the value of steroid therapy in this series have been the use of different steroids, the use of different dosages of the same steroid, and the difference in the duration of administration of one or other steroid.

However, certain facts do seem significant. (i) Short-term steroid administration relieves the œdema, but does not necessarily prolong life. (ii) Long-term steroid administration does appear to prolong life, but whether this involves the cure of the condition can be accurately assessed only in the future. In this series, there was no statistical proof, the statement being based on the impression formed by the writer after studying the outcome of the illness in several patients examined in the latter half of the survey period. (iii) A significant number of patients appear to be cured without ever having been given steroids. (iv) There have been no deaths in the series attributable to steroid administration. (v) Among the 27 patients who died, 14 had had some form of steroid therapy, in spite of which they died during that sojourn in hospital or subsequently. Of these 14 patients, three died as a result of infection, and of the remaining 11, only six were found to have gross histological changes in the kidneys at autopsy. With regard to these 14 patients, the question of whether the type of steroid used, the dosage used and the duration of its administration conforms to currently held concepts of steroid therapy is debatable.

Thus, certain conclusions can be drawn from the survey, but the role and value of steroid therapy will need to be more accurately assessed in the future.

Some Recommendations for Management.

With an over-all picture of the nephrotic syndrome as seen at this hospital in the past 10 years, and with a more standard routine in the management of new cases, an accurate assessment of treatment should be possible over the next five years.

When a new patient is admitted, the following details should be recorded: (i) the results of a ward urine test; (ii) the blood pressure; (iii) the weight; (iv) the results of the microscopical examination of a centrifuged specimen of urine; (v) the blood sedimentation rate; (vi) the serum cholesterol level; (vii) the blood urea level; (viii) the serum protein levels, including the electrophoretic pattern of the serum.

The patient should be put on a high-protein diet with a restricted salt intake. When a base line is established after an initial period of observation, steroid therapy is commenced. On a long-term basis, steroids may be given continuously or intermittently, both methods probably having equal merit. However, the following routine, based on that of Riley and Scaglione at the Babies' Hospital, New York, is recommended.

Treatment commences with prednisone or prednisolone in a dosage of 40 mg. per day if the patient is under the age of three years, or 60 to 80 mg. per day if he is over the age of three years. This medication is given for each 24 hours in divided dosage, and is continued until there is clinical improvement and the blood sedimentation rate is normal (generally two to three weeks). The dose is then tapered off over three to five days, and over the next three months lower doses are given intermittently—for example, three days "on", then four days "off". If there is no recurrence of the illness and no albuminuria during the next three months, the daily dose is given for three to four days every two weeks. If, at the end of six months, there has been no recurrence, then steroid therapy is stopped.

If the case is refractory, other measures may be required—namely, a higher initial dosage, the intravenous administration of concentrated albumin and the intravenous administration of ACTH, and finally nitrogen mustard may be tried.

With prednisone or prednisolone in the dosage given, electrolyte problems are uncommon, but additional potassium supplements may be necessary, particularly if there is initially a considerable diuresis.

The oral administration of penicillin is recommended for prophylaxis against infection.

Acknowledgements.

I would like to thank the senior medical staff of the Royal Children's Hospital for permission to examine the

records used and the patients under their care. I would particularly like to thank Dr. Stanley Williams, who suggested that this survey should be undertaken, for his advice and encouragement in the preparation of this paper. I would also like to thank Dr. Alan Williams and Dr. A. W. Venables for their helpful criticism.

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LYMPHOSARCOMA OF THE THYMUS: ITS RELATION TO ACUTE LYMPHATIC LEUKÆMIA.

By REGINALD WEBSTER, M.D., D.Sc., F.R.A.C.P.,
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IN the seclusion of the museum of pathology of the Royal Children's Hospital, Melbourne, are six specimens of tumours of the thymus, catalogued as lymphosarcomas. Every one of the six children from whom these specimens were respectively obtained died within six weeks of admission to hospital, exhibiting the clinical features and the laboratory findings of acute lymphatic leukæmia. That the association of the thymic neoplasms and leukæmia was an occurrence of more than fortuitous significance seemed highly probable in view of the extensive and productive researches of recent years in the field of experimental leukæmia, and indicated that the specimens merited closer study than it was possible to give them under the conditions prevailing at the time of their acquisition.

Basis of Commentary.

The oldest of the group of specimens around which it is proposed to weave some discussion dates from 1915. On June 23 of that year I carried out an autopsy on the body of a boy who died at the age of eight years, and in whose clinical history it was stated that physical signs pointing to the existence of a mediastinal tumour had been present for an indefinite time prior to the boy's death. The leucocyte count was recorded as having risen rapidly to 400,000 per cubic millimetre, and as having been reduced to 120,000 per cubic millimetre by the exhibition of benzol, then in vogue in the treatment of leukæmia.

My autopsy record of that now-distant day described widespread enlargement of the lymph glands and hypertrophy of the intestinal lymphoid tissue, from which no single group or deposit seemed to have escaped implication, and noted the features of hepatomegaly, splenomegaly, renal enlargement and multiple subserous hæmorrhages, all of which were to prove, in later experience, to be routine autopsy findings in the acute leukæmia of childhood. The mediastinal tumour of the original clinical diagnosis was revealed as a large mass in the situation of the thymus, of the general shape of this gland but very much in excess of its normal size, overlying and concealing the heart, which viscus the tumour displaced downwards and backwards. The dimensions of the thymic tumour, as determined by recent measurement of the museum specimen, were 7·5 by 6·25 by 2·5 cm., and its microscopic structure was that of a lymphosarcoma.

Extended details of the clinical records of all the members of the group would be extravagant of space, not to say tiresome, and the following condensed statement should be adequate for the purpose of this communication.

Of the six children in whom thymic tumours and associated leukæmia arose, five were boys and one was a girl; their ages ranged from eight to 14 years, the mean being 10 years and nine months; the average period which elapsed between the parents' first appreciation that all was not well and the deaths of the patients was six and a half weeks, and the average stay in hospital was 25 days.

A correct diagnosis of pericardial effusion was made with respect to one boy (A.), but it transpired that the effusion had supervened on infiltration of the pericardium by an overlying malignant tumour of the thymus. Two patients, a boy (B.) and the girl, were admitted to hospital with the diagnosis of acute lymphatic leukæmia established. Mediastinal tumour was the diagnosis reached clinically for each of the other three boys (C., D., and E.); the diagnoses were subsequently confirmed by autopsy and the tumour in each case determined as a malignant lymphoma of the thymus.

The autopsy of the boy E. revealed another instance of pericardial effusion, which was presumably due to infiltration of the parietal pericardium by an overlying and closely adherent thymic tumour. The neoplasm was of enormous size, nodular in outline, and moderately firm in consistence; it measured 15·6 by 10·6 by 5·3 cm. in the sagittal, coronal, and antero-posterior axes respectively. This massive growth occupied the whole of the mediastinum, and was adherent anteriorly to the sternum and the rib cartilages, and posteriorly to the paravertebral tissue. From the hilum of the right lung the tumour effected invasion of virtually the whole of the middle lobe, and extended through the upper and lower lobes for short distances. The left lung was involved to a lesser extent. This specimen and that from the boy A., both of which induced pericardial effusions, were approximately equal in size and were the two largest of the six thymic tumours, the average dimensions of which were 10·7 by 5·8 by 2·8 cm.

Three of the malignant lymphomatous thymic tumours exhibited invasion of neighbouring structures, that of the boy E. in the manner described above, and also those of the boy A. and the girl. In the case of the girl the posterior aspect of the sternum was eroded by the contiguous malignant thymoma. Invasion of the pericardium and the ensuing pericardial effusion have already been mentioned in the notes relating to the boy A., at the autopsy on whom the very large thymic neoplasm required dissection from the vertebral column for its removal. Remote metastases in the form of definable tumours were not observed in any instance, all the tumours appearing to have elected to disseminate in the mobile manner which constitutes leukæmia.

Since 1915 (a period of 45 years) there have been admitted to the Royal Children's Hospital, Melbourne, 11 children exhibiting the association of acute lymphatic leukæmia with a large malignant lymphoma of the thymus, and in addition four children who died of lymphosarcoma of the thymus with no supervention of clinically appreciable leukæmia. Initiated as a study of lymphosarcoma of the thymus, the work was later extended in scope to take cognizance of lymphosarcoma in general, and the development of leukæmia in the course of tumours of this nature arising in tissues and organs other than the thymus.

Lymphosarcoma.

The term "lymphosarcoma", retained throughout this communication, has been deprecated by Gall and Mallory (1942) in their authoritative review of the subject of malignant lymphoma, on the ground that it represents but a transient clinical phase of a malignant process which is destined, sooner or later, to become generalized. In whatever tissue normally productive of leucocytes malignant proliferation is initiated, be it the bone marrow, lymphoid structures, the reticulo-endothelial system or the community of plasma cells, the ensuing neoplasm may present itself as a localized tumour, and sustain this character for a variable time. Such neoplasms are chloroma, lymphosarcoma, Hodgkin's disease and plasmacytoma (solitary myeloma). To these might be added the "eosinophilic granuloma of bone" (Dameshek, 1954). When the generalization to which the temporarily localized "leukosarcomas" are predestined is eventually consummated, it may evidence itself as widespread metastatic deposits, or the mobile dissemination of leukæmia. While it is true that lymphosarcoma is essentially a temporary localization and a transient clinical phase of the neoplasm malignant lymphoma—an overt manifestation, even

as leukæmia, of a process notorious for its concealed phases—the term nevertheless has descriptive value and there is much to be said for its retention. The name "lymphosarcoma" is used in this discussion in the sense in which Kundrat originally applied it, to denote a tumour which arises from groups of lymph nodes or from lymphoid tissue of mucous membranes, and progresses initially by extension along lymphatic vessels to adjacent nodes and tissues, or along the submucosa, giving rise ultimately to secondary tumours in many sites. It serves to separate the follicular, lymphocytic, and lymphoblastic types of malignant lymphoma, of relatively simple histology, from their family connexions, the microscopically more complex Hodgkin's disease and the frequently anaplastic stem- or reticulum-cell sarcoma.

To describe the tumours under discussion as lymphosarcomas of the thymus implies not only acceptance of the small thymocytes which pack the cortical portion of the gland as indubitably lymphocytes, but also that every care has been taken to establish the growths as having originated in the thymus, by excluding as far as possible the contingency that a massive mediastinal extension from a pulmonary or hilar gland neoplasm has engulfed the thymus.

Histology of the Thymic Neoplasms.

The histogenesis of the small thymocytes has been the subject of much discussion and research. It is to be recalled that developmentally the thymus is an epithelial structure, which is differentiated from the endoderm of the third branchial cleft. At the end of the second month of intrauterine life the thymocytes begin to appear, and while there is unanimity among embryologists that the reticulum of the thymus is in nature epithelial, as are the Hassall's corpuscles, agreement has not prevailed regarding the thymocytes. These cells are morphologically identical with small lymphocytes; it is considered by some students of the question that the small thymocytes are differentiated from the epithelial reticulum of the gland, and by others that they are in-wandered lymphocytes which mix intimately with the epithelial cells of the reticulum and occupy its meshes. The view that the small thymocytes are differentiated from the epithelial reticulum of the thymus is not supported by observations made on tissue cultures; in addition the morphological evidence of the identity of thymocytes and small lymphocytes is supplemented by the facts that they are equally sensitive to X irradiation, and that they are equally susceptible to cytolysis by sera obtained by the injection of thymus cells into rats. Both thymocytes and small lymphocytes exhibit the ability to change into macrophages, and that no distinction can be drawn between them is the opinion of most embryologists and pathologists.

The designation "lymphosarcoma" is therefore applied to the tumours to which this report relates; they occupied the position of the thymus in the anterior mediastinum, and in no instance could any structure recognizable as the thymus be found apart from the dominating neoplasm. The gross morbid anatomy indicated the thymus as the site of origin beyond reasonable doubt.

However, the presence of a large tumour in a particular region, though strongly suggestive, does not always prove that such locus is the site of origin of the growth. All pathologists of experience can recall instances in which a distant metastasis has assumed prominence over a relatively small and obscurely located progenitor. Two of the large mediastinal tumours in this group exhibited invasion of the lung of limited extent; the histology in each instance was that of a malignant lymphoid tumour, and it is theoretically possible that the source of the massive growth lay in the mediastinal lymph nodes, or even in the peribronchial lymphoid tissue. No help in locating the site of origin was forthcoming from the study of histological sections. The presentation of the tumours as primarily thymic neoplasms therefore rests upon the evidence provided by post-mortem dissection of the thorax, and the failure to find any other tumour to which any individual specimen might have stood in metastatic relation.

The fact that all six of the patients in whom the several mediastinal tumours arose exhibited leukæmic blood pictures, and died in a clinical state typical of acute lymphatic leukæmia, rendered it extremely probable that the tumours would eventually prove to be lymphocytic or lymphoblastic lymphomas. All were determined as such by the examination of microscopic sections incidental to the autopsies which provided the specimens, but a check survey of the histology was considered an important phase of their reexamination. This was carried out on microscopic sections freshly prepared from the museum specimens, which were demounted for the purpose; it proved a monotonous undertaking. The sections showed successive fields of proliferating lymphoid cells in which there was no pattern of differentiation or perceptible hint of design. The component round cells, of large size and almost completely occupied by a relatively weakly-staining nucleus, lightly endowed with chromatin, conformed with those of lymphoblastoma rather than lymphocytoma. In the examination of the microscopic sections it was difficult not to be influenced by a predisposition towards lymphoblastoma, engendered by acquaintance with the blood films of the children prior to death and knowledge of the clinically explosive character of the leukæmia from which they all died, but the interpretation of the histology was approached, as far as possible, without bias. It is opportune to mention here, with respect to biopsy examinations (which are frequently requested on excised lymph nodes) that, although a diagnosis of malignant lymphoma may be made correctly, microscopical sections afford no criteria by which the presence of leukæmia may be recognized, or its development predicted.

At all events the review of the histology served to ensure that there was among the tumours no representative of lympho-epithelioma, that essentially carcinomatous and diffusely cellular growth, derived from the epithelial reticulum of the thymus, which has often been erroneously identified as a lymphosarcoma by reason of the intimate intermingling with the proliferating epithelial cells of abundant admixed lymphocytes.

Sites of Origin of Lymphosarcoma: and Incidence of Leukæmia.

In the hope of possibly confirming my impression, gained in many years of pædiatric autopsy work, that to the thymus must be conceded the notoriety of occupying pride of place as the site of origin for lyphosarcoma in childhood, and also to gather some knowledge of the frequency with which leukæmia supervenes in the course of lymphosarcomas of organs and tissues other than the thymus, I have searched the clinical and autopsy records of all children certified as having died in the Royal Children's Hospital from lymphosarcoma since the year 1914. No tumour was approved as lymphosarcoma unless its identity was established by biopsy examination, post-mortem findings or, as frequently happened, by both these confirmatory measures. Two examples of reticulum-cell sarcoma were included, but Hodgkin's disease, although in a strict pathological sense a sarcoma of lymphoid tissue, by reason of its differing and more complex histology as compared with that of lymphocytic and lymphoblastic lymphoma, was considered to be outside the scope of the inquiry.

The information gained by a study of the records of 45 years is summarized in Table I.

It will be observed that lymphosarcoma occurs but seldom; a tumour of which 45 examples appeared over the clinical horizon in as many years cannot be said to to have obtruded itself frequently. Willis (1948) describes lymphosarcoma as predominantly a disease of middle and old age. Experience at the Royal Children's Hospital, Melbourne, of the low incidence of lymphosarcoma in childhood is paralleled by Dargeon's (1953) finding that of 583 malignant tumours treated in children of the age group 0 to 14 years at the Memorial Centre for Cancer and Allied Diseases, New York, only 27 (or 5%) were lymphosarcomas.

Table I confirms my anticipation that the thymus would be found to be a site of predilection for lymphosarcoma, although in this respect it holds but a small margin over the cervical lymph nodes. The high figure attained by the cervical lymph nodes in Table I, and in similar compilations from other sources, may be to some extent due to the circumstance that enlargement of the cervical lymph nodes is likely to attract attention sooner than similar change affecting other and less conspicuous groups. A notable point relating to the four lymphosarcomas listed as arising in the lymphoid tissue of the intestine is that they were concentrated in the ileo-caecal region. Clinical and pathological details relating to two of these specimens were reported in 1938 (Webster). A very recently acquired specimen, not included in the table, is an example of lymphoblastomatous symmetrical enlargement of the vermiform appendix.

TABLE I.

Fatal Cases of Lymphosarcoma from the Records of the Royal Children's Hospital (1914–1959).

Site of Origin of Lymphosarcoma.	Number of Cases.	Incidence of Clinically Appreciable Leukæmia.
I. Tonsil	1	—
II. Peripheral lymph nodes:		
(a) Cervical	11	—
(b) Inguinal	2	—
(c) Generalized	4	—
III. Mediastinum:		
(a) Thymus	15	11
(b) Tracheo-bronchial lymph nodes	4	—
IV. Abdomen:		
(a) Intestine	4	—
(b) Retroperitoneal lymph nodes	6	—
V. Femur	1	1
Totals	45	12

From the analysis embodied in Table I, the striking fact emerges that of 15 children in whom arose a lymphosarcoma of the thymus, in 11 leukæmia, acute, aggressive and obvious to even a perfunctory examination of the peripheral blood, dominated the later phase of the illness. No less striking, and a matter for surprise, was the finding that terminal leukæmia was observed in the course of only one of the 30 tumours which arose in situations other than the thymus, the particular neoplasm being indicated radiographically as having originated in the medullary tissue of the femur.

Leukæmia is a hazard attending any of the cytological types of malignant lymphoma, as was shown by Gall and Mallory (1942), who, in a study of malignant lymphoma based on a clinico-pathological survey of 618 cases, found that peripheral blood pictures, characteristic of leukæmia as commonly defined, were observed at some time during the course of the disease in 48% of the subjects of the lymphocytic type of malignant lymphoma, and in 38% of those deemed to be suffering from the lymphoblastic type. Gall and Mallory did not correlate the incidence of leukæmia with the sites of localized and apparently primary tumours; in fact, in only 11% and 13% respectively of the subjects of lymphocytic and lymphoblastic lymphoma from whom the figures were derived was there a localized tumour, or "lymphosarcoma" present. Further, among the patients who furnished the data upon which these estimates were based were many adults, in whom the leukæmia was of chronic and relapsing character, and the very antithesis of the lymphatic leukæmia of childhood. Gall and Mallory's figures are therefore not a reliable index of the incidence of leukæmia to be anticipated in the course of lymphosarcoma in childhood. However, it was anticipated that leukæmia would have eventuated in the course of more than one of the 30 lymphosarcomas which clinical and post-mortem evidence indicated as having arisen in lymphoid structures other than the thymus. The explanation of the low incidence of leukæmia found in association with the non-thymic lymphosarcomas is not apparent, but the circumstance throws into striking relief the high leukæmia rate obtaining in lymphosarcoma of the thymus. That lymphatic leukæmia is but a phase of malignant lymphoma, in either its localized or dispersed form, is accepted teaching, but it is an inconstant phase, and it remains true that lymphocytic or lymphoblastic lymphoma may run its dire course, in both children and adults, without involving the bone marrow or liberating abnormal cells into the systemic vascular channels.

Rosenberg and co-workers (1958) have reported their findings in a 50-year survey of lymphosarcoma in children and adults, based on the records of the Memorial Centre for Cancer and Allied Diseases, New York. In the childhood group of 69 patients under 15 years of age, 42 of whom were afflicted with lymphocytic or lymphoblastic lymphosarcoma, and 25 with reticulum-cell sarcoma, 10 (or 14·5%) showed a "transition suggesting a leukæmic change". Of the 42 cases of small-cell lymphosarcoma, nine (21·4%) eventuated in leukæmia. No information is given regarding the sites of the lymphomatous tumours in the patients who developed leukæmia. In the foregoing tabulation of data extracted from the records of the Royal Children's Hospital, Melbourne, the over-all incidence of leukæmia in lymphosarcoma is shown as 12 in 45 (26·6%), and is of the same order as that shown in the observations of Rosenberg and his associates in New York, but the arresting finding in the analysis of records covering a period of 45 years at the Royal Children's Hospital, Melbourne, is that in 11 of the 12 children in whom leukæmia supervened on lymphosarcoma, the site of the primary tumour was the thymus.

Malignant Lymphoma of the Thymus and Acute Lymphatic Leukæmia.

Thymus hyperplasia and neoplasia have been linked with lymphatic leukæmia for many years. McCrae (1905), in a study of lymphatic leukæmia, commented on the very large size of the thymus, of dimensions 13 by 4 cm. revealed by an autopsy on a patient who had died of this type of leukæmia, while the description by Major (1918), relating to a woman who had died of acute leukæmia, and the measurements of whose thymus were 10 by 7 by 7 cm., might well have referred to any of the older children who provided the specimens upon which this discussion is based. Numerous case records of similar burden are not far to seek, no less than 74 having been collated from the literature of the period from 1862 to 1931 by Jean V. Cooke, who reported clinical details of an additional nine children in whom a mediastinal tumour was associated with acute leukæmia. Rigorous criteria were prescribed for the admission of any case record to Cooke's particularly well-documented file. All of the patients in her group of nine were boys; the age of the oldest was 13 years, and seven of the nine were less than eight years of age. Analysis of the total of 83 cases shows that the condition affected males nearly six times as often as females, that over 90% of the patients were under 30 years, and that approximately 50% were aged 15 years or less. These figures relating to the age incidence of lymphosarcoma of the thymus and associated leukæmia show it to be a disease of the first three decades, and to a large extent reverse those recorded in textbooks for lymphosarcoma in general. In view of the conspicuous part played by the thymus in experimental leukæmogenesis, later to be discussed, the fact that 42 of the 83 cases of acute leukæmia in association with a mediastinal tumour were found in the age group 0 to 15 years suggests as a possibility that some thymic instability may attend the recession of the gland which proceeds slowly throughout the pre-pubertal period.

The museum specimens of thymic tumours, which in review have proved so provocative of discussion, are of vintage 1915 to 1946; in the children from whom they were derived the average age was 11 years, and the male

predominance in incidence was sustained, five of the six being boys. In four of the six patients the diagnosis of mediastinal tumour was established before the appearance of leukæmic manifestations, and such was the sequence of events in four of Cooke's group of nine. Three of the six tumours upon which Sternberg (1915) based his conception of "leukosarcoma" were located in the mediastinum and were notable for their large dimensions; that they were of thymic origin would seem to be very probable.

The clinical and autopsy findings which have implicated a malignant lymphoma of the thymus as an intimate associate, and probably the forerunner of acute lymphatic leukæmia in many instances, and reports of which have been sprinkled through medical literature for the last hundred years at least, are in line with experimental findings in present-day cancer research. A very wide field has been covered by laboratory studies, the accounts of which contribute to a story of absorbing interest, but are too long to be reviewed adequately in this communication.

The Thymus in Experimental Leukæmogenesis.

Almost all the significant data relating to lymphomatous tumours of the thymus and the leukæmia associated with them have accrued from experimental work in mice, and the fact that no strict analogue of human acute childhood leukæmia occurs in mice imposes a limitation on the direct application to human childhood of facts relating to mouse leukæmogenesis. However, the differences between leukæmia in mice and leukæmia in children are only those of acuteness of onset and rapidity of course; qualitatively it is the same in both species, and predominantly of lymphatic type. As affirmed by Kaplan (1954), for corresponding forms of leukæmia and lymphosarcoma in the murine and human species respectively, there are striking morphological and clinical similarities.

In these investigations, notable and frequent reports of which have occurred in the literature of cancer research of recent years, Furth (1946), Law and Miller (1956), Kaplan (1947, 1951, 1954, 1956), and Metcalf (1956), have figured prominently. It has now been conclusively demonstrated that the thymus plays a significant role in the development of malignant lymphomas and leukæmia in strains of inbred and leukæmia-susceptible mice, whether such processes arise spontaneously or are induced by carcinogenic agents such as X irradiation, œstrogens or methyl-cholanthrene. In the strains of inbred mice designated by Law and Miller (1956) Ak and RIL respectively, the workers named found that the thymus was nearly always involved in the lymphomatous process, and that it was the first, and in many cases the only organ so affected. Further, and this is an abundantly confirmed observation, thymectomy consistently effected a striking reduction in the incidence of leukæmia as compared with that in control series of intact mice subjected to whole-body irradiation. Despite the exalted susceptibility of the thymus, and the distinct inhibitory influence of its removal upon the development of lymphoma and leukæmia, no comparable predilection for the spleen has been demonstrable; likewise, it has been the experience of Furthe and his associates (1944) and of Kaplan (1956) that splenectomy does not modify the lymphoma incidence.

Law and Miller (1956) found that the reduced incidence of leukæmia sequent on thymectomy could be restored to control levels in methylcholanthrene-treated mice of strain dba by autologous or homologous thymic implants, an observation supported by the work of Kaplan and Brown (1954), who have described the development of lymphomatous tumours in homologous thymic grafts implanted in leukæmia-vulnerable mice promptly after irradiation and thymectomy. Kaplan and Brown (1954) emphasized that the site of origin of the lymphomas was clearly in the thymic implants, which, it is to be noted, had not been subjected to irradiation or to the influence of any other carcinogen at any time. Thus malignant tumours were induced in tissues which had not been exposed to the carcinogenic agent, in this case X-irradiation, primarily responsible for the neoplastic change. The observation was interpreted as indicative of the operation of a wholly indirect mechanism of induction on the part of the thymus of lymphoid tumours in systemically irradiated mice.

Predominant though the thymus may be in the mechanism of induction of malignant lymphomas and lymphatic leukæmia in mice, its role has been found subject to modification by two agencies, one described as the "bone marrow factor", and the other the hormonal influences which promote the growth or recession of lymphoid tissue. What Kaplan (1954) has termed the bone marrow factor has been found to be essential to the regeneration and recovery of weight of the thymus after severe irradiational injury. It has been proved indubitably by experiment that if a high incidence of lymphosarcoma and leukæmia is to follow exposure of leukæmia-vulnerable mice to X irradiation, such irradiation must embrace the whole body; the shielding of even one hind leg has been found to bring about a striking degree of inhibition of lymphoid tumour induction, the credit for which is assigned to the undamaged marrow in the protected limb (Kaplan and Brown, 1951). A similar result has been achieved by the intravenous injection of normal homologous bone marrow cell suspensions into unshielded, irradiated animals. It has been reasoned by Kaplan (1954) that if the bone marrow factor required by the thymus for its restoration has been destroyed by the agent to which the thymus fell a victim, be it irradiation, œstrogen, methylcholanthrene or other hydrocarbon, the thymus is deprived of the regenerative influence of the marrow, and lymphosarcoma and lymphatic leukæmia result. If sufficient bone marrow has escaped injury, or has been supplied from exogenous sources, the thymus will be enabled to recover, and provided such recovery is not too long delayed, few or no lymphoid tumours will occur. The mechanism and site of action of the bone marrow factor apparently have not as yet been elucidated, but it seems to be essential for the regeneration of the hæmopoietic tissues, including the thymus, after severe irradiational injury.

The effects of hormonal secretions on the incidence of spontaneous or induced lymphoid tumours in mice parallel their effects on thymic growth and involution. Sturm and Murphy (1944) showed that adrenalectomy in rats leads to regeneration of retrogressed tissue of the thymus in old animals, and stimulation of the thymus in young animals, the observed effects being due to the loss to the animal's economy of the normally thymolytic adrenal cortical hormones. The effect of thymolytic hormones, such as progesterone, testosterone and cortisone, on experimental lymphoid tumour induction has been described by Kaplan (1954) as being directly proportional to the reduction of thymic weight which ensues on their exhibition. In general it appears that stimulants and irritants to the thymus, and disturbances of hormonal equilibrium which result in an increase in thymic weight, promote the induction of lymphoid tumours, while thymectomy and thymolytic hormones prevent their occurrence or promote their regression.

The field of research is too wide to be reviewed adequately in this communication, but it does appear that the thymus exerts a potent influence in determining the development of experimental lymphomas and lymphatic leukæmia; indeed the presence of thymic tissue at some place in the body would seem to be necessary for the induction of leukæmia in a high percentage of animals.

Interesting studies of another facet of this subject are those of Metcalf (1956), who has demonstrated (i) the presence of a lymphocytosis-stimulating factor in the plasma of human subjects with chronic lymphatic leukæmia, lymphosarcoma and myelofibrosis; (ii) that the thymus in these disease states has a higher than normal content of lymphocytosis-stimulating substance; and (iii) that the source of such agent is located in the epithelial cells of the thymic medulla. The foregoing

statement indicates, in meagre outline, the tenor of Metcalf's researches, and when his findings are considered with the significant facts established by other workers — namely, (i) that malignant lymphomas and inseparable leukæmia are initiated in the thymus in the great majority of suitably conditioned mice; and (ii) that thymectomy strikingly reduces the incidence of such phenomena, an incidence that is raised to the level of that in control animals by restoration of thymic tissue by autologous or homologous grafting — the suggestion that in some manner, as yet obscure, thymic over-activity is an important factor in the genesis of leukæmia is very strong, if not insistent.

The mechanism by which the thymus exerts its potent influence is by no means clear. Reference was made earlier in this discussion to the experiments of Kaplan and Brown (1954), in which lymphoid tumours developed in thymic implants made promptly after irradiation and excision of the thymus glands of suitably conditioned mice. The thymic implants had at no time been irradiated, but developed lymphoid tumours by virtue of mere residence in the tissues of the irradiated host. The observation sugested to Kaplan and Brown the existence of an indirect mechanism of induction of lymphoid tumours in systemically irradiated mice, and implied that in this process the thymus figures in a double capacity; not only is this gland most frequently the site of origin of a malignant lymphoma and an attendant leukæmia, but in many strains of mice, and possibly all, it appears to furnish a factor which contributes to the induction process, even when the disease arises elsewhere. Law and Miller (1956) subscribe to the view that allots a dual role to the thymus in leukæmogenesis in mice, and do not dismiss the possibility of a thymic hormone; however, they consider it unlikely that the potent influence of the thymus is mediated through an internal secretion, the thymus never having been established as an endocrine gland.

The precipitating cause of the foregoing discussion was the realization that every one of six museum specimens of lymphosarcoma of the thymus was obtained from a child in whom acute lymphatic leukæmia declared itself before death. Between the clinical state of these children, and the conditions which have been repeatedly observed to obtain in experimental leukæmogenesis, there is a degree of parallelism which suggests that the lymphoid cells of the human thymus may respond to endogenous leukæmogenic agents with the same high degree of selectivity, in comparison with other lymphoid tissues, as is exhibited by the reaction of the thymic cells of the mouse to experimental exogenous leukæmogens.

Summary.

1. A commentary on six specimens of lymphosarcoma of the thymus is presented.

2. Emphasis is laid on the frequency with which malignant lymphoma of the thymus and acute lymphatic leukæmia have been observed to be associated. It is shown from the records of the Royal Children's Hospital, Melbourne, that in a period of 45 years acute leukæmia arose during the course of 11 out of 15 examples of lymphosarcoma of the thymus, in contrast with one out of 30 such tumours of which the sites of origin were in lymphoid tissues other than the thymus.

3. Notable studies in cancer research have established the dominating role of the thymus in experimental leukæmogenesis, and have shown an impressive degree of parallelism between the leukæmia associated with malignant thymic lymphoma in children, and that which occurs under experimental conditions in suitably conditioned leukæmia-susceptible mice.

4. The thesis that thymic over-activity plays an important part in the genesis of leukæmia is based on clinical records and experimental evidence. In general it appears that an increase in thymic weight, determined by hyperplasia in response to stimulants and irritants, or by hormonal influences such as loss or reduction of thymolytic hormones ensuing on adrenal hypofunction, favours the experimental induction of lymphoid tumours and concomitant leukæmia, while thymectomy and thymolytic hormones prevent their occurrence or promote their regression.

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THE PROBLEM OF ALCOHOLISM IN AUSTRALIA AND ENGLAND.

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THE problem of alcoholism, so long neglected in recent years, has found increasing attention all over the world. Despite much research especially in countries with a pressing problem, such as the United States of America, France and Sweden, many questions still await satisfactory answers.

Compared with these countries, neither Australia nor England has a problem of similar magnitude. No field figures are available about either country. However, Mackay (1959) estimated the number of Australian alcoholics in 1952 as 120,000 out of a total drinking population of four or five millions. The only available figure in England is that of the World Health Organization of approximately 350,000 in 1948 for a drinking population of approximately 25,000,000. According to these figures the Australian ratio of 2000:100,000 adults aged over 20 years contrasts with the English ratio of 1100:100,000. The finding of a proportionately numerically bigger problem in Australia than in England seems to bear out popular impression. However, one has to remember that both these figures are arrived at on the basis of Jellinek's formula, which rests on the relationship between liver cirrhosis and alcoholism. There are several theoretical difficulties in regard to the Jellinek formula. Recently it has come in for some criticism by Seeley (1959) and by Brenner (1959). In practice, the Jellinek formula, when compared with the results of field studies carried out in a few areas, has proved on the whole fairly satisfactory (Popham, 1958), but recently Jellinek (1959) has stated that he holds the further use of his formula no longer valid, and he himself has come out in favour of field studies.

Cirrhosis.

It is, of course, well known that cirrhosis of the liver occurs in a certain proportion of alcoholics, and that it is also found in non-alcoholics. However, reliable figures are difficult to come by. Wood (1959) estimated, from a Melbourne sample, the number of alcoholics among liver cirrhotics at 51%, which is very different from the figure of 5% found by Davidson (1958) at the Hammersmith Hospital in London; but other observers in England have found a somewhat higher percentage of alcoholics among people suffering from liver cirrhosis. Among female patients seen in an English mental hospital and described in a previous paper (Glatt and Judge, 1960), clinical evidence of liver damage was rare, though liver tests often showed some abnormalities.

The age distribution of the 68 female patients was as follows: 21 to 30 years, 3%; 31 to 40 years, 24%; 41 to 50 years, 42%; 51 to 60 years, 22%; 61 to 70 years, 9%. The mental and physical complications encountered in the series were: hepatomegaly, 11 cases; abnormal liver function, 52 cases; peripheral neuritis, 9 cases; delirium tremens, 11 cases; Korsakov syndrome, 1 case.

A similar finding was previously obtained by Kay (1959) among male and female alcoholics at Warlingham Park Hospital. In both cases, approximately three out of four alcoholic patients show abnormality when tested with a battery of liver function tests. But at Warlingham Park Hospital, on further testing, these abnormal results were often found to be normal, so that they were indicative probably of reversible fatty liver changes rather than of a cirrhotic liver. It is, of course, well known that the basis of the lesion of the liver in alcoholics is fatty infiltration, whereas cirrhosis is only a late and relatively uncommon finding. Cirrhosis, like other organic complications observed with "chronic alcoholism", is nowadays ascribed in the main to accompanying malnutrition rather than to a toxic action of alcohol itself. Most alcoholics sooner or later neglect their food intake. A relatively high food intake, rich in protein and vitamins, would theoretically have been expected to militate against the development of such complications.

Ætiology.

The ætiology of alcoholism is still obscure, but is probably a combination of several factors. Psychological, environmental and possibly also physical factors are at work; otherwise, given similar conditions, spirit consumption could be expected to lead more rapidly to alcoholism than beer or wine consumption, but there is no doubt that the latter can produce alcoholism. Spirits and beer are taken in similar proportions by Australian and British drinkers, whereas wine intake is more popular in Australia (12% as against 4% in the United Kingdom). That even predominantly wine-drinking countries can show a high alcoholism rate is at present well in evidence in the case of France, which has the relatively highest proportion of alcoholics in the world. But strong measures taken to fight alcoholism in France have produced some success in the past year.

Prevention.

In prevention, socio-economic, legislative and educational measures have their part to play. In general, prohibition has not proved to be a success in countries such as Russia, the United States of America and Finland. High taxation of alcoholic drinks exists in Australia as in the United Kingdom, and it may be of some interest to note that the figures for drunkenness and for deaths from liver cirrhosis, etc., all began a steep decline with the introduction in 1917 in Britain of restrictive measures, including the adoption of a method of a few permitted hours of opening public houses (in place of the formerly used method of closing them for a few hours) and a marked increase in taxation (Glatt, 1958).

In Mackay's sample of alcoholics, one-third show some occupational exposure to alcohol. That is a much higher proportion than among alcoholics seen at Warlingham Park Hospital or St. Bernard's. In the present series, the occupational status was as follows: professional, 1 subject; semi-professional, 14 subjects; skilled (clerical), 16 subjects; partly skilled, 12 subjects; unskilled, 8 subjects; domestic, 12 subjects; barmaid (occupational), 5 subjects.

Mackay also reported a higher incidence of disease resulting from malnutrition among his patients, such as cirrhosis of the liver, encephalopathy, neuropathy, cardiac failure, pancreatitis and gastritis. All these were relatively rare in association with admissions to these two English mental hospitals. Of the alcoholic patients at St. Bernard's, 75% showed on admission disturbance of the liver function and about one-sixth had hepatomegaly; but as was pointed out by Mackay, these changes often proved reversible. One-seventh had subjective or objective features of peripheral neuritis. One-sixth gave a history of having had delirium tremens in the past. Korsakov's syndrome occurred only once. However, one has to remember that Mackay's patients were admitted to a general hospital, and it is not unlikely that alcoholics admitted to an English general hospital might likewise show more physical complications than in a mental hospital. On the other hand, the great majority of alcoholics admitted to these hospitals had not eaten properly for a considerable time and were, in general, not in too serious physical health. Their admissions were more often precipitated by social, domestic or employment difficulties. Once more, these considerations show that it is impossible to generalize from a specially selected sample of alcoholics to the total alcoholic population.

Accidents are not uncommonly recorded in both English and Australian samples. Many alcoholics were covered in bruises, 47% of the patients admitted at Warlingham Park Hospital admitted having acted whilst drinking in a way which was dangerous to themselves or to others. Of the male patients 23% admitted having got into trouble because of driving under the influence, a figure which corresponds with the findings of Bowden (1958) in Australia. Mackay believes that the danger of dying in traffic accidents is much greater than that of dying from liver cirrhosis.

Research.

Mackay's quest for a wide-scale medico-social research and for the establishment of special clinics and out-patient facilities is as justified in the United Kingdom as in Australia. A special 22-bed research clinic has recently been opened at Moore Park to provide education, early diagnosis and treatment (together aiming at a programme of prevention), and to establish an adequate number of facilities from which those who have fallen victims to alcoholism may draw help from a sympathetic team of professional workers in cooperation with A.A. (*Australian*

Factory, 1960). What is clear from our experience in the United Kingdom and, from a review of the Australian literature is the need in both countries for further research. There is hardly any organized research in progress, apart from biochemical work being carried out in Bristol by Macleod on behalf of the Society of Addiction. Recently the Alcoholism Sub-Committee of the Rowntree Social Trust has initiated a study of the incidence of alcoholism in a London district, and some research has been carried out in the few hospitals which attempt to deal with alcoholism in a more systematic way. Yet again, a list prepared by the Rowntree Trust Sub-Committee only showed once again the woefully inadequate number of special clinics and units dealing with alcoholism. In both countries alcoholism gives rise to absenteeism, to reduced industrial efficiency (*Australian Factory*, 1960), to industrial and traffic accidents, to physical and emotional harm to the happiness and health of relatives, to much expense (incurred through upkeep in hospitals and prisons and caring for dependants), to crime, to venereal disease and to prostitution (McKellar, 1946). It is clear that alcoholism is as much an important health problem and community responsibility today as it has ever been.

Cade (1956) has stressed the responsibility of the community and the seriousness of the problem, though, unlike Mackay, his observations have been made from patients admitted to a mental hospital. In Cade's experience, alcoholism is by far the most frequent single ætiological agent necessitating recent admission of male patients to mental hospitals in Victoria. This again bears out the greater incidence of the illness in Australia, for certainly in the United Kingdom alcoholism is far behind the number of other causes necessitating admission to a mental hospital. Cade rightly stresses the inadequacy of treatment facilities under present-day conditions. According to him, most alcoholics do not stay sober longer than the time of their in-patient stay. He points out that most of them discharge themselves immediately after their acute symptoms have subsided, and he laments the acute shortage of accommodation. It is true, of course, that adequate special treatment facilities need to be provided in order to initiate a proper rehabilitation programme, but until that is done, interim measures, such as described by us (Glatt and Judge, 1960) could well serve as a stop-gap, helping to keep these patients in the hospital under treatment and giving them some chance of success. Within the framework of the alcoholic group, the greater majority of patients can be induced to stay long enough for the exposure to take place, for the development of some motivation to remain sober and to maintain contact with Alcoholics Anonymous after their discharge. It is interesting to note that among Cade's patients there was, as with our English patients (Glatt, 1955), no evidence of a preponderance of "occupational" alcoholism; but this contrasts with Mackay's sample of alcoholics admitted to a general hospital. It may be that "conflict"-produced alcoholism, implying such factors as tension and depression, less often leads to physical complications than to mental and domestic upsets necessitating admission to a mental hospital. On the other hand, the habitually heavy (rather than primarily addictive) drinking of occupational alcoholism, as in publicans, may possibly be more often responsible for the development of physical complications.

Treatment.

In contrast to the coercive detention of alcoholics in Victoria, there is no real provision for compulsory treatment in England, apart from a clause inserted as part of a probation order. There may be a case for compulsory treatment, as it is possible that, if treated within the type of unit suggested by Cade (the therapeutic community—group therapy, with simultaneous treatment of personality problems and of alcoholism, spiritual counselling and Alcoholics Anonymous), quite a few patients would, in time, develop some motivation to remain abstinent. However, there is a supreme need for special facilities for this purpose, and as Cade states, indiscriminate and haphazard admission of alcoholics to the nearest mental hospital is useless and may be harmful, as the alcoholic may find only that no one understands him, that there is no treatment for his complaint and that his only refuge and relief is by taking even more to the bottle. The group at St. Bernard's Hospital referred to above does, in fact, attempt to carry out under unsatisfactory environmental conditions most of the suggestions made by Cade. The set-up at Warlingham Park Hospital, though situated in a mental hospital and not providing for a separate ward, runs on the same lines and has met with quite a measure of success.

For many reasons, group therapy seems a very suitable method for the treatment of alcoholics, and is a way to bring them back to the society from which their drinking has tended to isolate them. Our impressions correspond with those of Benn (1958) concerning group management of alcoholics at Mont Park Hospital in Victoria. Group therapy may also be suitable for the alcoholic in prison, as carried out by Drew (1960) in Victoria, though no such provision existed in the United Kingdom until recently, when Alcoholics Anonymous started the first prison group. However, one would think that preliminary screening might be necessary.

Patients admitted to St. Bernard's solely because of drug addiction (without alcoholism) were also treated within the group, and this procedure has proved beneficial for mutual understanding between the alcoholic and drug addict. In fact, too, over one-third of the alcoholic patients admitted to taking drugs to excess, and it would appear that in Australia, it is not uncommon for the alcoholic to supplement his fluid intake with drugs such as carbromal, bromvaletone, etc. (Minogue and Kyneur, 1960; James, 1960).

Any treatment programme for alcoholism is probably incomplete without the cooperation of A.A. It is relatively easy to sober up and detoxicate a patient; but sobering up is only the first phase in the whole programme, which stands and falls according to the provisions it makes for follow-up in the rehabilitation period. It is during this phase that A.A. can make its contribution, as Wilding (1949) has pointed out. It is possible for social workers in collaboration with A.A. to induce even the initially hostile alcoholics to affiliate with the fellowship. Naturally, as with other treatments, A.A. also succeeds in the main with non-psychopathic alcoholics, and the pre-alcoholic personality is, in fact, the most important prognostic indicator in alcoholism.

At St. Bernard's and at Warlingham Park Hospital, the treatment programme is based on community living, group therapy and close contact with A.A. A.A. groups have been formed within the hospitals. Regular meetings are held, to which relatives are occasionally invited, as treatment is not considered complete unless some attempt has been made to include the family in the programme. A.A. now extends all over the world, with over a quarter of a million members loosely organized in more than 8000 groups in over 50 countries. In England and Wales there are now approximately 100 groups with 3000 members. A.A. seems well established in Australia since it originated in Sydney in 1945. The American actress L. Roth describes in her book "I'll Cry To-morrow" the part which she, her husband and a priest played in "carrying the message" to New Zealand and to Victoria. Minogue (1948, 1954) has also repeatedly described the work of A.A. in Australia. A.A. is very anxious to work in close cooperation with doctors.

Drug Treatment.

A comprehensive treatment programme for alcoholics will also contain provision for drug treatment. In the acute stages nowadays, the tranquillizers have made the task much easier. For long-term treatment, sensitizing drugs are now more popular than emetine aversion or apomorphine. Disulfiram is still the most commonly used drug, and contraindications have been narrowed down. Caution is still needed when there is disease of the liver or the heart, though Hurley (1951) found little toxic effect in patients with nutritional liver disease. More recently a new sensitizing drug, "CCC", has been tried in both England (Glatt, 1959) and Australia (Collins and Brown,

1960). Both its side effects and the protection it affords are less pronounced than is the case with disulfiram, and its use depends on individual selection. In general, it can be stated that no one treatment will prove the treatment of choice for every alcoholic, and individual personality assessment should decide the choice of that therapeutic agent deemed most suitable for the patient in question.

Education.

A comparison of the age groups of patients treated at St. Bernard's with those described in the Australian literature shows that in both cases the most commonly affected group was that aged between 40 and 50 years. However, as was shown by Jellinek (1952) and verified at Warlingham Park and St. Bernard's, it usually takes an average of 10 to 25 years for alcoholic addiction to develop. Thus the first amnesia, which is regarded by Jellinek as the symptom introducing the "prodromal phase", occurred among the female in-patient population of St. Bernard's at an average age of 34 years. Loss of control, which introduces the "crucial phase", occurred several years later—namely, at 36 years; "benders", the first feature of the "chronic phase", appeared at 38 years. Yet the average age for admission to a hospital because of alcoholism did not take place until the age of 45 years. The drinking history may be summarized as follows:

Age at time of first drink	19·1 years
First amnesia	34·4 years
Loss of control	35·7 years
Benders	37·7 years
First admission to hospital	45·3 years

This again bears out the need for education among doctors as well as among the lay public concerning the early features and nature of alcoholism, which should, in fact, be diagnosed long before it has reached the stage of irreversible complications. Mackay, for instance, has indicated that proneness to accidents is more common in heavy drinkers than is liver cirrhosis. Most people involved in traffic accidents while under the influence are probably not "alcoholics", though it seems from a recent American study (Schmidt and Smart, 1959) that alcoholics are proportionately much more involved in such accidents than non-alcoholics. However, it would be possible for a court to have an opportunity to suspect an alcoholic in the making, and to recommend suitable observation and investigation. As in Australia, so too with the female alcoholics at St. Bernard's, there is a high proportion of broken marriages. In only nine out of a total of 68 women was the marriage still intact. One-quarter were separated and two-fifths were divorced. Two-thirds were thus divorced or separated, and such figures bear out the great importance of alcoholism as a wrecker of homes, with all the detrimental effects that a broken home exerts upon the emotional development of children (Glatt, 1958).

Marital Status:

Unmarried	8 patients
Divorced or separated	39 patients
Widowed	12 patients
Marriage intact	9 patients

Number of Children:

1 child	13 patients
2 children	17 patients
3 children	11 patients
4 or more children	5 patients
No children	14 patients

Conclusion.

Alcoholism is a progressive illness. Unchecked, its sufferers slide down to the bottom of society, and among its victims are very able and intelligent people who may end up as down-and-out methylated spirit drinkers (Minogue, 1946), as suicides, as accident casualties or as sufferers from intercurrent infections and physical complications. Some end as demented individuals, spending the rest of their lives in mental hospitals. Formerly it was thought that before an alcoholic could be reached and helped he would have to hit "rock-bottom" (Minogue, 1946); but it is now known that this is not necessary. Early diagnosis is therefore of the utmost importance, though on the other hand, as he has stressed, it is sometimes necessary to avoid over-protection with the alcoholic, and the ever-forgiving wife and doting mother can often effectively protect the alcoholic from realizing the experiences and consequences of his excessive drinking till very late in the course of his illness. But it does not follow that understanding and an accepting attitude on the part of the family and, indeed, of his employer, his friends and the therapeutic personnel, is not of the greatest importance in approaching and handling alcoholics.

Summary.

An analysis has been made of the incidence of alcoholism in Australia and the United Kingdom. Some of the difficulties associated with early diagnosis and treatment within the existing framework of the services available to the community have been compared, and a broad approach embracing social, medical, educational and psychological factors has been advocated.

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THE TREATMENT OF ALCOHOLICS IN A PUBLIC MENTAL HOSPITAL.

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IF one may judge from statements in this Journal and discussions with Australian psychiatrists (James, 1960; Russell, 1960), the treatment of alcoholics seems to be as much a problem in Australia as it is in England. Probably the question is even more acute in Australia, for although no exact figures are available, Mackay has estimated, using the Jellinek formula, that the number of alcoholics in Australia in the year 1952 was 120,000, that is, 2000 per hundred thousand. The ratio in England and Wales was approximately 1100 per hundred thousand in that year.

No technique commonly in use for the treatment of alcoholics holds a "blitz" cure within a few days. On the whole, at present, it is agreed that a combination of several techniques, psychological, physical and social in nature, is probably the most promising method, as has been suggested in this Journal by Minogue, Mackay and Cade. It seems likely that the best results may be obtained by the formation of special units. However, the formation of such units depends on many factors, such as public (and medical) education for the need of them, and also on the interest of the State and medical authorities with regard to financial provision.

All this takes time, and meanwhile, alcoholics in need of treatment do not find a place from which to obtain it. Under these circumstances it is felt that a description of the formation of a small group of alcoholic patients in an English mental hospital may be of some interest.

It is not implied that the set-up to be described has been ideal. On the contrary, conditions in many ways were difficult and could be bettered from every angle; but on the other hand, it is felt that until such time as proper special units can be established, and for the want of anything better, the method described may act as a stop-gap. At least it would be preferable to the present-day method of "dumping" alcoholics haphazardly into the regional mental hospital without regard for the attitude and experience of the nursing and medical staff or the presence of other alcoholic patients who could provide the alcoholic with some measure of support and a feeling of belonging.

The Background.

St. Bernard's Hospital is one of the oldest British mental hospitals, and is known particularly because of the introduction of the method of non-restraint by Connolly about 110 years ago. St. Bernard's is still one of the biggest mental hospitals in the country with over 2000 beds. The section for male patients is run by one consultant, while that for female patients is split into two halves, each run by a consultant. The female firm, in which the group was formed, has 600 patients, some certified and some attending on a voluntary basis. Since the passing of the new *Mental Health Act*, most patients are informal. Two of the wards are closed, but the others are open. On the whole, leave is not granted until after a stay of four weeks. The great majority of the patients in the hospital are psychotic, schizophrenic or depressive, and there is a proportionately high and increasing number of old people.

The Origin of the Group.

Until 1958 one of us had, before taking up work at St. Bernard's, been closely associated with the alcoholic unit at Warlingham Park Hospital, which is dealing with male and female alcoholics from all over the country. In view of the lack of special facilities for treatment, it is not surprising that from 1958 there was an increasing number of requests for admission of alcoholic patients at St. Bernard's. The surroundings and the general hospital atmosphere were not promising, and there was not the slightest chance of an extra ward for alcoholics or for single rooms. Yet, although warned not to expect an alcoholics' paradise, alcoholics and their doctors persisted in requests for admission. Thus permission was obtained to admit alcoholic patients from outside the catchment area, and from the spring of 1958, alcoholic women were admitted to the hospital from all over the country. They had first to go to the admission ward, but because of the lack of beds they had shortly afterwards to be moved to another ward. Each ward repeatedly accommodated numbers of patients up to 45 and 60, and on the average there were only three to six alcoholic female patients in each ward. They were always therefore an insignificant minority among the ward patients.

Because of administrative difficulties no male alcoholics were admitted from outside the catchment area. However, there were usually a few male alcoholics in the hospital coming from the catchment area itself, although, unlike the female patients, these men usually had not entered the hospital conscious of a drinking problem; they certainly had no notion of giving up alcohol. With some encouragement they could be persuaded to participate in the bi-weekly group discussions which formed the backbone of the treatment programme.

Subsequent Development.

The formation of the group and the initiation of a comprehensive programme proceeded smoothly. The programme included the use of drugs, the formation of an Alcoholics Anonymous group in the hospital and an arrangement for patients to attend Alcoholics Anonymous groups in the neighbourhood.

Experiences at Warlingham Park Hospital were often useful and confirmatory. In the female section, where there was some measure of *esprit de corps*, in spite of the relatively small number of patients, occasions when patients became drunk while away from the hospital on leave, or after discharging themselves prematurely, were extremely rare. Such occurrences were much more common among the male patients, in whom there was initially less motivation, and who were scattered even more widely throughout different wards.

An interesting development which took place was the widening of the scope of the group. Initially the male drinkers admitted to the hospital vigorously denied any suggestion that they were alcoholics. To encourage them to give the group a trial, the method we subsequently adopted consisted in naming it a "drinking problem" group, leaving it open to the participants to discover more about themselves during the discussions. In fact, quite a few patients who attended were not alcoholics, but seemed to obtain some measure of insight and help from the meetings, with the result that in some cases an excessive intake was reduced. It thus proved quite feasible to treat alcoholics, who naturally had to learn that alcohol in the future was not for them, alongside other heavy drinkers who had not yet crossed the line of no return and were still in a position to increase their alcohol intake.

Another body of people also attending the group were drug addicts. In the past few years quite a number of people were examined who had become habituated to a number of modern drugs, some of which until recently could be bought freely over the counter. Among such drugs were sedatives and hypnotics, such as carbromal preparations, while a few patients habitually took the non-barbiturate hypnotic drug glutethimide. Other patients took barbiturates to excess or stimulating drugs such as the amphetamines or the more recently introduced phenmetrazine. Here again, after the initial

difficulties of identification, it proved possible for these drug addicts to partake in the discussions and to see the common points between alcohol addiction and their own problem. As the group orientation was dynamic in nature, attempting to deal with the personality difficulties and the problems arising in human relationships, it was as beneficial to drug addicts as to drinkers. Finally, not only in-patients attended the groups but also out-patients. Among these were individuals who had been examined at an out-patient clinic held in Central London, and to whom it had been suggested that they should attend the groups. More recently quite a few of the discharged patients have continued to visit the hospital intermittently for the group meetings.

Referrals.

Most of the referred patients who were admitted to the hospital from outside the catchment area came at the request of their own doctors, and not a few came from other hospitals. Not infrequently alcoholics were sent along by the Courts on the recommendation of a probation officer or the prison medical officer. Sometimes members of Alcoholics Anonymous were the first to ask for the admission of patients. In such cases the Alcoholics Anonymous members were asked to get in touch with the patient's own private doctor, and provided that he agreed and felt that the patient needed hospital care, the patient could be seen at the out-patient clinic or be immediately admitted to the group.

The stimulus for the encouragement of this procedure arose from the findings of an inquiry among general practitioners in which it was discovered that a great many of them had hardly ever met an alcoholic in their practice (Parr, 1957). It was felt that this might be due to the fact that very often alcoholics do not mention their drinking habits to their doctor, and that in turn doctors are not sufficiently prepared by their medical training to diagnose alcoholism that has not become complicated by the development of extreme mental or physical alcoholic illness. It was therefore felt that referral of these alcoholics to their general practitioner might be of some help in spreading knowledge about their problem among the medical profession, an essential step if progress in early diagnosis and treatment is to be made. A few patients were also admitted on a "14 day order"—that is, they were admitted to hospital for compulsory treatment, but once having made contact with the group during this period, they usually agreed to stay.

The male patients were admitted to the hospital as a routine procedure, either at the request of a local doctor or after having been seen at the out-patient clinic.

The Patients.

In view of the administrative difficulties the group consisted, in the main, of female patients.

Three *per centum* of the patients were between 21 and 30 years of age; 24% were between 31 and 40 years; 42% were between 41 and 50 years; 22% were between 51 and 60 years; and 9% were in their seventh decade of life.

Eighteen *per centum* of the patients were admitted to hospital once only; 23% were admitted twice; 18% were admitted three times; and 41% were admitted on four or more occasions.

Fifteen *per centum* of the patients stayed in hospital for periods up to two weeks; 19% stayed between two and four weeks; 12% stayed between four and six weeks; 21% stayed between six and eight weeks; and 33% stayed for eight weeks or longer.

The percentile frequency of patients addicted to barbiturates was 37·5%; that of patients addicted to amphetamine 20·0%; patients addicted to phenmetrazine had a percentile frequency of 12·5%; glutethimide addicts had a percentile frequency of 7·5%; carbromal and bromvaletone addicts accounted for 12·5%; and the percentile frequency of addicts to other drugs was 10·0%. The frequency of drug excess among the patients on the whole was 36%.

Twelve *per centum* of the patients were admitted to hospital on probation or by a Court order.

In the main these findings correspond to those obtained a few years ago at Warlingham Park Hospital (Glatt, 1955). However, it should be pointed out that these findings cannot be taken as being representative of the total alcoholic population in England and Wales, although possibly to some extent of those who ask for help with the drinking problem. This consideration has been discussed by us before, but has been again demonstrated in the present study (Glatt and Judge, 1961). Thus, at Warlingham Park Hospital the great majority of alcoholics belonged to the middle classes, whereas most of the male patients at St. Bernard's were working class people. The difference seems mainly attributable to the fact that the concept of alcoholism as a treatable illness is even less known among the working class than among the middle classes. Thus, it is chiefly the alcoholics belonging to the latter who come voluntarily for treatment, perhaps because of better motivation, explainable on the basis of such factors as better education, greater ability and perhaps the greater concern of their superiors and greater support and interest on the part of wives and families in general.

Results.

No results can be given as no follow-up has been carried out, and the observation period is, as yet, much too short. However, while in the hospital these patients gave little trouble to the authorities and drunkenness was very uncommon. The female patients proved very cooperative and helpful, for example, in assisting the nursing staff in caring for chronically ill hospital patients. Almost all these patients took great interest in Alcoholics Anonymous once having been introduced to it, attending A.A. meetings after discharge from hospital, or revisiting the group at more or less regular intervals. No extra staff (doctors, nurses, social workers, etc.) was available for these patients and so they had to learn to acept responsibility for each other (to develop initiative, etc.) and they could not depend on hospital staff to sort out all their problems.

However, there seemed a significant difference between the female and the male patients, in the degree of cooperation, in the willingness to stay in hospital for the recommended time of about two months, in the frequency of drinking bouts and in keeping in touch after discharge from hospital. It was sometimes thought this was not so much due to the fact that the women often came to hospital because of their alcoholic problem, whereas the men at first were not conscious of it, but that there were relatively more females to help each other develop some form of group code. Also it may have been due to the fact that the doctors who were leading the group were officially associated with the female, but not with the male patients of the hospital.

The Treatment Programme.

The therapeutic plan, in the main, followed the plan adopted at Warlingham Park Hospital, where community living and group therapy formed the basis of the programme (Glatt, 1958). The first aspect could not be realized properly at St. Bernard's. There were two group sessions with the doctors each week, although more seemed desirable, but these could not be held because of the lack of doctors' time. The hospital chaplain took an increasing interest in this work, attending groups regularly, and helped those patients who semed to have special difficulty within a spiritual sphere. Individual psychotherapy was not carried out, not only because of the shortage of time, but because it was felt that the knowledge that the patients could talk about their difficulties in individual discussions with the doctor would militate against the discussion of the same problems in the group. All the problems discussed by the patients with the doctors were therefore referred back to the group.

Almost all the patients were given a sensitizing drug, either "Disulfiram" or the more recently introduced citrated calcium carbimide. It was recommended that they should continue with this medication after their discharge from hospital and that they should not stop taking the tablets, even if individual Alcoholics Anonymous members advised them against the procedure. As the nursing staff caring for these patients was frequently changed, there was little chance for the nurses to become familiar with the treatment of this type of patient, or with the special methods of treatment. Aversion treatment therefore was infrequently advised. However, these methods of treatment were often discussed within the groups, and a few patients insisted on undergoing apomorphine therapy because they had read about it or heard about it from patients who had undergone this treatment elsewhere in the past. A few patients were also given apomorphine by mouth, as suggested by Dent (1954). Alcoholics Anonymous was an integral part of the programme. A regular weekly A.A. meeting was held at the hospital, run by an experienced member of a neighbouring A.A. group. It was strongly suggested to the patients that it was practically hopeless to continue alone after leaving hospital and that they should join their local A.A. group. They were also strongly encouraged regularly to attend, whilst still at hospital, the meetings of neighbouring A.A. groups outside the hospital.

As a regular aspect of the treatment, these alcoholics were also encouraged to attend the regular reunion of the alcoholic patients of Warlingham Park Hospital, which takes place once a month in London. There these patients met the alcoholic patients of Warlingham Park Hospital and a great number of Warlingham Park ex-patients who had remained sober for many years. They were also encouraged to contribute to the monthly magazine published by the Warlingham Park Hospital alcoholic group and which is mailed to ex-patients.

Ideally, the family members of alcoholics should also be included in the treatment programme. However, it was not always possible even to obtain a social history, as often these patients came from far-away places, had lost their husbands, and, so on. Furthermore, in the absence of a social worker alloted specially to care for the group, the hospital's social workers could give only a little time to the work of the alcoholic group. Similarly, only rarely could the help of the psychologist be enlisted.

Conclusions.

The experiences described here do not show an ideal way of treating alcoholics. On the contrary, conditions were often very far from ideal. There was lack of medical and experienced nursing staff, and while some of the staff, especially the junior members, showed a lot of understanding of these patients, some of the older sisters seemed to be unable to adopt an approach in any way different from that to which they had been accustomed in the handling of patients with chronic mental disease and dementia. Further, there was a lack of suitable living accommodation; yet, in spite of these unsuitable conditions, the work proceeded satisfactorily. Most patients had formerly been treated in hospitals elsewhere, where there were no other alcoholic patients, and they expressed their great appreciation of the fact that they found themselves among other alcoholic patients, and that alcoholism here was not neglected, but treated as a medical complaint in its own right. It is certainly believed by us that, as long as there are not special alcoholic facilities available in sufficient number, the technique outlined here proves an incomparably better method of assisting alcoholics than the alternative one of sending one alcoholic to one hospital, another to another, and so on, with the result that tthe patients never obtain a feeling of being accepted and belonging, nor do the staff obtain the experience to develop an understanding attitude.

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Reviews.

A Handbook of Diseases of the Skin. By Herbert O. Mackey, F.R.C.S.U., L.R.C.P.I., D.P.H. (Univ. Dublin), L.M., F.R.I.A.M.; sixth edition, 1959. London: Macmillan and Company Limited. Dublin: C. J. Fallon Ltd. 8¼" × 5¼", pp. 264, with 203 illustrations. Price: 8s. 6d.

THE clinical features and management of the common dermatoses are well dealt with at the student level in this practical little handbook, first published in 1952 and adequately revised in its sixth edition.

A good clear index and chapter arrangement make reference easy. The quality of the black-and-white illustrations is excellent, and their number is greater than one would expect in such a reasonably priced volume. The chapter on the nursing of skin diseases is a welcome addition, and an example to authors of larger volumes. Skilled nursing is an essential for rapid recovery of patients with most dermatoses, but instruction in this nursing is mainly neglected in textbooks. One wonders from what source nurses are expected to acquire this particular skill. The chapters on tuberculosis of the skin and on syphilis are most useful. Syphilis is still with us, and it must still be considered in differential diagnosis. The incidence of this disease is undoubtedly rising again.

Dr. Mackey has succeeded in maintaining his handbook in concise and condensed form, for which he is to be congratulated. He has stoutly resisted the trend to enlargement which would have taken his volume out of the class of handbooks. However, the long list of the author's appointments and published works on the front page seems unnecessary.

Altogether, this book is certainly worthy of a new edition, and can be recommended to those for whom it has been written.

The Diabetic Life: Its Control by Diet and Insulin and Oral Treatment by Sulphonyl-Ureas, A Concise Practical Manual. By R. D. Lawrence, M.A., M.D., F.R.C.P. (Lond.); sixteenth edition, 1960. London: J. & A. Churchill Ltd. 8" × 5", pp. 240, with 19 illustrations. Price: 15s

SIXTEEN EDITIONS of a medical monograph must be nearly a record, especially when the latest editions have all had the advantage of revision by the original author. R. D. Lawrence has recently rewritten the sixteenth edition of his famous "The Diabetic Life", which embodies his whole experience of a lifetime spent with diabetics and their problems. The new edition is even more comprehensive than the last, the main addition being a description of the hypoglycæmic agents for oral administration now available.

Tolbutamide is chiefly described, together with theories of its mode of action and application. The final paragraph in this section is headed: "Trying to Substitute Tablets for Insulin—Beware!" Dr. Lawrence is obviously unimpressed with the possibilities of large numbers of patients being able to dispense with insulin, and we agree with this viewpoint.

In the treatment of diabetic coma, the primary dose of insulin (partly given intravenously) is recommended to be one-tenth of the initial blood sugar level. This dose would be regarded as too small in many centres. Lawrence rightly comments on the unreliability of the serum potassium level

as an index of the true cellular potassium deficit. The provision of alkali by vein is properly delayed until the result of the initial alkali reserve estimation is available. In the management of children, early insulin is advised, and emphasis is laid on the necessity for the early injections to be given by an expert, so as to render them as painless as possible.

With regard to diabetic education, the essentials of which are well described, we believe that education of the patient's wife or husband, or of others living with the patient, is of great importance, so that they may recognize, perhaps sooner than the diabetic himself, the early symptoms and signs of hypoglycæmia coma or precoma.

This book remains the best, simplest, most adequate and most practical handbook on diabetics in the world. By its aid, any general practitioner can handle almost any diabetic at any phase of his disorder, and so gain the specific satisfaction which is the reward of every doctor who takes an intelligent and patient interest in diabetics. No facets of the diabetic life escape comment by Dr. Lawrence, who we fervently hope will continue to produce many fresh editions of this most important work. The author's working years have covered all the eras from pre-insulin days to the present epoch of isotopic research into carbohydrate metabolism, and he himself has made contributions to our knowledge and practice at each phase. Truly this is a unique experience, the results of which, after critical scrutiny, have been incorporated in a relatively small, easily read and well arranged volume.

Emergencies in Medical Practice. Edited by C. Allan Birch, M.D., F.R.C.P.; sixth edition, 1960. Edinburgh and London: E. & S. Livingstone Ltd. 8½" x 5½", pp. 464, with 133 illustrations. Price: 45s.

THIS is a comprehensive book. It has 675 pages of text, divided into 30 chapters. There are 139 illustrations, 15 in colour.

There is a helpful chapter on the emergency bag, and acute poisoning is well considered. The chapter on the hazards of medical procedures could be profitably read with care and digested by all practising doctors. There is helpful information on medico-legal emergencies, in which such matters as permission to act in an emergency, dying depositions, declarations, how to bequeath a body for dissection, criminal abortion and what to do in a case of alleged rape are just a few of the items considered in this chapter.

The chapter on medical emergencies at sea would be most useful to any doctor who is contemplating a term as a ship's surgeon. The chapter on medical emergencies in renal disease, gives definite, explicit and easily followed advice on the treatment of such conditions as extrarenal uræmia, anuria and retention of urine. Medical emergencies in diabetes, diabetic coma and the preparation for surgical operation are well considered. Emergencies in industrial medicine are given 17 pages, packed full of useful advice. The chapter on medical emergencies in the air gives helpful advice on the selection of patients who are fit or unfit for air travel. There must be very few practising doctors who would not gain useful information from the scanning of this book. It should be in the hands of all doctors who practise in the general field.

Clinical Obstetrics and Gynecology, Volume 3, Number 1. March, 1960. **Obstetric Emergencies.** Edited by Martin L. Stone, M.D. **Pediatric Gynecology.** Edited by John W. Huffman, M.D. New York: Paul B. Hoeber, Inc. 9¾" x 6", pp. 264, with many illustrations. Price: Subscription $18.00 per year.

AFTER a foreword by the editor, Martin L. Stone, the symposium "Obstetric Emergencies" opens with a long chapter on anæsthesia, which includes reference to all the common obstetric emergencies. Conduction anæsthesia is widely used, and in the inhalation group, cyclopropane. Robert A. Cosgrove writes the short account of "failed forceps". He points out the distinction between "failed forceps" and "trial forceps". The latter is respectable, the former is not. Transverse presentations in labour are treated predominantly nowadays by abdominal delivery, with a considerable salvage of infants. There is an almost equal use of classical and lower segment Cæsarean sections. From the Women's Hospital division of St. Luke's Hospital, New York, comes the article on rupture of the uterus. More than half the series of 36 ruptures followed previous Cæsarean section, and the policy now is "once a Cæsarean, always a Cæsarean". (The over-all section rate at St. Luke's is between 12% and 13%.) Salerno writes on eclamptogenic toxæmia. He stresses the importance of hypotensive drugs, and the infrequency of convulsions following the drop in blood pressure. Ferguson's compact article on severe abruptio placentæ has the stamp of authority. Cæsarean section is frequently performed, and urgently when there is a chance of saving the fœtus. "Pitocin" infusions are also used with good effect, even when the uterus is tonic. The causes, prevention and treatment of post-partum hæmorrhage are discussed by A. Charles Posner. His management of the third stage of labour is rather old-fashioned. Stone and Fox write on acute abdominal emergencies, and Gold gives a comprehensive account of cardiac arrest.

The symposium on "Pediatric Gynecology" is edited by John Hoffman, of Northwestern University, Chicago, who writes the foreword and the chapter on vulvar disorders. J. M. Tanner (University of London, U.K.) traces the development of the reproductive system during adolescence. He includes a graph showing the trend towards earlier occurrence of puberty in the last 100 years. Rosenthal discusses genital anomalies diagnosed in childhood. There follow chapters on vulvo-vaginitis, ovarian tumours and uterine tumours. In the last-mentioned, Ulfelder and Hendren include a well-illustrated description of sarcoma botryoides. Hugh Jolly (England) emphasizes the relative normality of the child with "constitutional" sexual precocity, and contrasts this with the much rarer case of organic ætiology. From Duke University comes an article on the congenitally rudimentary gonad syndrome which clears up much confusion in nomenclature of this and similar conditions. Williams (London) deals with the correct management of the intersex female. William Bickers writes an enlightening account of the ætiology and treatment of dysmenorrhœa. Anna Southam, discussing dysfunctional uterine bleeding of adolescence, points out the frequency with which in severe cases the condition persists into adult life. Most of the authors append a list of references.

This volume maintains the standard of previous numbers in this series.

The Foot and Ankle; Their Injuries, Diseases, Deformities and Disabilities. By Philip Lewin, M.D., F.A.C.S., F.I.C.S.; fourth edition, 1959. Philadelphia: Lea and Febiger. Sydney: Angus and Robertson Limited. 9¼" x 5¾", pp. 612, with 339 illustrations. Price: £7 14s.

THIS volume is the fourth edition of a text first published in 1940; it attempts in some 600 pages, with many illustrations, to discuss all the medical, surgical and orthopædic conditions of the region.

The book has both the virtues and the failings of a single-author text. It is personal in its approach, and on the whole discursive in style. The subject emphasis is uneven; for example, the anatomy of the foot and ankle is dismissed in five pages of text, whereas double this space is devoted to "Foot Notes and Footsteps — Pedigrams — Wise Words". These quotations, epigrams and poems would be more suited to a collection of homespun philosophies than to the present volume.

There is a comprehensive discussion of the minor orthopædic disabilities of the foot and ankle, and the chapters on simple corrective appliances to shoes could be helpful to the general practitioner. The details of foot surgery are well illustrated, although the orthopædic surgeon would probably prefer to use a larger text as a reference. On the other hand, the peripheral vascular lesions of the lower extremities and the general medical conditions of the foot are discussed in detail, and the treatments suggested are comprehensive.

This is an expensive volume, and it is doubtful if it will have any wide appeal in this country.

Contributions to Obstetrics and Gynæcology. By V. N. Shirodkar, M.D. (Bombay), F.R.C.S. (Eng.), F.A.C.S.; 1960. Edinburgh and London: E. & S. Livingstone. 9¾" x 6¾", pp. 167, with illustrations. Price: 37s. 6d. net (English).

V. N. SHIRODKAR, formerly Professor of Obstetrics and Gynæcology at the Grant College, Bombay, from 1935 to 1955, in his preface to this book writes:

> If those among us who had the good fortune to have extensive experience would commit to writing their views and experiences in their own specialty, it would provide a fund of interesting, stimulating and thought-provoking material.

His well-written and well-set-up monograph of 150 pages achieves this object. Shirodkar is probably best known for

the operation he devised to cure incompetence of the internal os of the cervix uteri, which in some cases is responsible for habitual abortion in the second trimester of pregnancy. After describing the ætiology of this incompetence, he then describes the types of case in which benefit from this treatment is likely. Enthusiasts for this operation would do well to read this section. Modifications of his operation are extensively used throughout the world, and it is interesting to read his own precise technique.

The problem of the operative cure of prolapse is discussed at length. Shirodkar considers that the Manchester operation is unsatisfactory, because it fails to shorten the stretched utero-sacral ligaments, and because amputation of the cervix in women of child-bearing age is followed by lowered fertility and a high incidence of abortion and premature labour. He describes his extended Manchester operation, in which the pouch of Douglas is opened, and the utero-sacral ligaments are mobilized, crossed in front of the cervix and stitched to it behind the base of the bladder, which has been dissected free. The cervix is not necessarily amputated. This procedure would certainly strengthen the uterine supports, and should prevent subsequent enterocele, which is the most common failure after the Manchester operation as usually performed. It would seem a desirable method of treating prolapse in younger women, but after the menopause, vaginal hysterectomy permits satisfactory reconstitution of the pelvic floor by bringing together the cardinal ligaments and the utero-sacral ligaments above the vaginal vault. Shirodkar anticipates a 5% failure even with his extended Manchester operation, so he has devised an abdominal fascial sling operation, using strips of fascia lata removed from the outer side of the thigh. From these strips are made two loops, one loop in effect replacing the utero-sacral ligaments and the second smaller one holding up the former, suspending it to the anterior longitudinal ligament in front of the fifth lumbar vertebra. The whole procedure seems unnecessarily complicated.

Shirodkar's thoughtful ingenuity is shown in his technical approach to the surgery of blocked Fallopian tubes. His method of keeping in position the loop of "Polythene" tubing after implantation of the proximal end of the tubes into the uterine cornua appears simple and effective. He records an instance in which "Polythene" tubing remained through the tubes for longer than three years. The patient conceived within six months of its removal and bore a son. His normal practice is to leave the "Polythene" tube *in situ* for four months, and he claims that 90% of the tubes remain patent. In evaluating results of tuboplasty, he has graded the types of tubal occlusion into five groups with widely varying success rates between them.

The problem of artificial vagina is discussed at length, and an operation is described for utilizing a portion of the pelvic colon for this purpose. He has done this operation on 40 patients. This indicates a wealth of clinical material unlikely to be available to any gynæcologists in this country.

The last section of this book consists of summaries of various papers by the author. Shirodkar's arguments are well reasoned, and the technique of all operations described is well shown, with line drawings and beautiful photographs illustrating each step. It is a volume for the experienced gynæcologist who is familiar with well-established techniques, but is never satisfied that they cannot be improved upon.

Essentials of Orthopædics. By P. Wiles, M.S. (Lond.), F.R.C.S. (England), F.A.C.S.; third edition, 1959. London: J. & A. Churchill Limited. 9¼" × 6", pp. 590, with 417 illustrations. **Price: 70s.**

THE third edition of this work has appeared. Much has been revised and rewritten and some illustrations have been changed and new ones added. The first chapter is on posture, a subject of which its author has evidently made a close study, and is an excellent account. Included in this section are accounts of torsion of the tibia and bow legs, which give the impression that they are two separate entities, and sandwiched between them comes genu valgum. Not all will agree that operative measures are called for in the treatment of knock knees except in very rare instances. The account of back pain and sciatica is very comprehensive, and manipulation treatment is amply illustrated. Keller's operation is undoubtedly the most popular and successful operation for hallux valgus when arthritis is present; but it shortens the great toe, and the second toe may give trouble and require to be shortened if it is unduly long. In young patients without arthritis, the more conservative operations, such as the MacBride procedure, have many adherents. Recurrent subluxation of the talus does not necessarily require operation; patients with minimum disability are amenable to conservative management. Muscle lengthening for torticollis which gives the ideal cosmetic result is not referred to, nor is lengthening of the tendo Achillis and posterior capsulotomy mentioned in the treatment of talipes equino-varus. In the description of the treatment of osteoarthritis of the hip, the disadvantages of arthrodesis could be given greater emphasis, and it is doubtful whether osteotomy has any advantages over arthroplasty. However, this question is still highly controversial, and the author is entitled to his own views. The description of affections of the knee is very full. However, it is about time that the dubious prognosis of osteochondritis dissecans got into the textbooks. Surely excision of the sequestrum is a better method of treating Osgood-Schlatter's disease than drilling. The compression technique is the only operation given for arthrodesis of the knee and ankle, but the student may be required to know something of the alternatives. Tendon injuries are said to be outside the scope of this work. The chapters on pyogenic infection, tuberculosis, tumours and various bone diseases and diseases of the nervous system are masterly.

This book packs a wealth of information accompanied by first class X-ray films, diagrams and illustrations set out in a concise and orderly fashion in 550 pages. It ends with a useful bibliography for further reading.

Diabetes: With a Chapter on Hypoglycæmia. By 54 authors edited by Robert H. Williams, M.D., 1960. New York: Paul B. Hoeber Inc. 9¼" × 6", pp. 816, with 192 illustrations. Price: $20.00.

THIS book is compiled by a large number of authors writing chapters on various aspects of diabetes in which they are recognized authorities. It covers much that is of theoretical importance, more than half the book being devoted to these aspects of the subject; but it also gives considerable space to the clinical aspects of diabetes and the practical management of the disease as it applies to the patient. Of particular interest is a comprehensive cover of the management of diabetes by oral therapy. Its size, and its comprehensive coverage of the subject in 48 chapters, make this book too large to be used as a standard text.

The fields covered range from present concepts of insulin and glucagon secretion and of the distribution, action and structure of insulin, through experimental diabetes, other endocrine and metabolic interrelationships, pathological anatomy and the treatment of diabetes and complications, to hypoglycæmia.

Whilst it is recognized that the constantly changing picture seen in the field of diabetes, particularly in the theoretical aspects, makes any text on the subject out of date by the time it reaches the bookshelf, this book is commended as a reference text for those wishing to undertake a review of virtually any subject in the field of diabetes theory up to the time of the publication of this volume. The book is well printed and well illustrated, and provides an abundance of reference sources at the end of each chapter.

Books Received.

[The mention of a book in this column does not imply that no review will appear in a subsequent issue.]

"Aids to Theatre Technique: A Complete Textbook for the Nurse", by Marjorie Houghton, M.B.E., S.R.N., S.C.M.D.N., and Jean Hudd, S.R.N.; third edition; 1961. London: Baillière, Tindall & Cox. 6¼" × 4", pp. 234, with illustrations. Price: 8s. 6d. (English).

"Classification of Kin, Age Structure and Marriage amongst the Groote Eylandt Aborigines", by F. G. G. Rose; 1960. Oxford: Pergamon Press Ltd. 9¼" × 6¾", pp. 588, with many illustrations. Price: £5 net (English).

"Evaluation of Drug Therapy: Proceedings of the Symposium on Evaluation of Drug Therapy in Neurologic and Sensory Diseases held at the University of Wisconsin, May, 1960", edited by F. M. Forster. The University of Wisconsin Press, 1961. 8¾" × 5¾", pp. 192. Price: $4.00.

"Chemistry of the Amino Acids", Volumes I, II and III, by J. P. Greenstein and M. Winitz; 1961. New York, London: John Wiley & Sons, Inc. 9" × 6", pp. 786. Price not stated.

The Medical Journal of Australia

SATURDAY, APRIL 22, 1961.

A CALL FROM CARDIOLOGY.

CARDIOLOGICAL DIAGNOSIS, research and equipment have increased so much in demand and in expense during the last 15 years that it is usually impossible for more than a very few large hospitals to provide facilities for the modern investigation and medical and surgical care of all the patients with cardiac problems who present themselves. Considerable laboratory space is needed, as well as a fairly large highly trained staff of investigators and technicians. Several of the medical personnel must be employed on a full-time basis, and maintenance and overhead costs are considerable. Such has been the speed of technological advance that much equipment is soon obsolete. Laboratory research overseas, in this field, has become so detailed and precise, requiring the assistance of complex electronic and physical mensuration, that if Australia wishes to contribute to basic knowledge, machines to do this work must be made available. Added to this, the training of cardiologists of the future must include a term of service in such laboratories, whether they find themselves ultimately in clinical practice or in research. Cardiology has become a long and varied discipline, extending deeply into certain realms of physiology pathology, psychiatry and endocrinology, and even into problems of nutrition and blood coagulation. Cytochemistry, ultra-microscopy and other intimate problems of cellular metabolism are in process of being added to the list.

These considerations receive added emphasis from the frequency and universality of cardio-vascular disorders, some of the most lethal of which are increasing at an alarming rate. It has been estimated that one of every seven patients consulting a doctor complains of symptoms referable to the cardio-vascular system. Many believe that by thorough education of the community in regard to the preservation of habits of exercise and restricted eating, a significant slowing of the present increasing incidence of coronary artery disease could be effected. The social consequences of cardio-vascular accidents have received small attention in Australia so far, especially in comparison with achievements in North America and Sweden. For instance, only a handful of sufferers from strokes are afforded the advantages of modern rehabilitation procedures, begun on the first day of the illness. No facilities for an informed assessment of the potentialities of the cardiac patient in regard to replacement in industry or vocational re-training exist here, and only a small fraction of patients handled by the Commonwealth Rehabilitation Service and the rehabilitation departments of public hospitals are cardiac. Education of workers in this area of medicine by overseas lecturers, fully stocked libraries, travel grants and attendance at overseas conferences and seminars is of more importance in Australia than in other countries less remotely situated.

All this requires much money, much more than can be obtained from hospital boards, from governments and from private endowments. Vital and timely assistance has been rendered hitherto by individual philanthropists, such as Sir Edward Hallstrom, Mr. Adolph Basser, Mr. and Mrs. Fox, the Joint Coal Board in New South Wales, and many others elsewhere. But the price is now too high, and when the Cardiac Society of Australia and New Zealand three years ago received a generous grant from the trustees of the R. T. Hall Trust in New South Wales, it deliberately put into operation a programme which resulted in the establishment in Canberra in February, 1959, of the National Heart Foundation of Australia—a partnership of cardiologists and laymen who have applied themselves to the problem of raising a capital of at least £1,500,000 from the people of Australia, the interest from which is intended to be applied to the needs already expressed. If this proves insufficient for the purpose, the capital will be expended, until in a few years a further campaign may be required. With further aid from the R. T. Hall Trust and from the Federal Government, the present campaign, which opens officially in Canberra on April 28, 1961, represents over two years of devoted organizational work and planning on the part of hundreds of influential and broad-minded men and women throughout the whole Commonwealth and its mandated territories. Ready assistance and advice have been received from the American Heart Association and the Canadian Heart Foundation. The Australian Foundation and its campaign are fundamentally national in character, and recommendations as to the manner of disbursement of its funds will come from a National Medical and Scientific Advisory Committee, representative of all the States and of the principal disciplines interested in cardio-vascular disease. State committees of similar calibre will assist in furtherance of the objectives of the foundation within their own areas.

The high problems of tuberculosis, cancer, accidental deaths, infectious diseases and occupational hazards are already recognized as official State responsibilities, and share as a regular component of the Federal and State health budgets. Many other funds and foundations have given freely of their resources to research into problems of heart disease, but they have heavy responsibilities to many other branches of medicine. One of the constitutional objects of the National Heart Foundation is to relieve them of their contribution towards cardio-vascular research, and to collaborate and cooperate with them as closely as its charter permits.

An appeal of this character and magnitude cannot succeed without the interest and active assistance of the whole medical profession. The practical advantages of

such an institution are obvious, but there are other measures of success than that of attainment of a financial target. There must be goodwill, hard work, understanding and confidence on the part of each of us, if Australia is to fulfil a role in the control of heart disease and the care of its victims of which we can be proud, and so gain the attention and respect of the nations of the world.

Current Comment.

CHEMOTHERAPY IN THE TREATMENT OF ACNE.

In the "Year Book of Dermatology and Syphilology" for 1948-1949, its then editors, M. B. Sulzberger and R. L. Baer, discussed the management of acne vulgaris at some length. Since then Sulzberger has shown his continued interest in the subject by a series of articles, some in collaboration with V. H. Witten. In their latest article,[1] Sulzberger and Witten, with R. W. Steagall, junior, discuss the use of systemically administered antibiotics and sulphonamides in the treatment of acne vulgaris. At the same time Baer and Witten, as the present editors of the "Year Book of Dermatology", have returned to the subject in the 1959-1960 Year Book with a leading article discussing recent advances in the knowledge and management of acne, in which the systemic administration of antibiotics or sulphonamides is heartily endorsed for use for patients who do not respond promptly to topical and other simple measures. This last proviso is of fundamental importance, for all these authors stress that acne is a complex problem with many facets, that there is no simple panacea, and that the best results will be obtained only by attempting to correct or counteract all the unfavourable factors, local or systemic. Sulzberger, Witten and Steagall write: "We do not substitute systemic antibacterial agents for the standard methods of therapy, however, but use them as supplementary treatment." The basic essentials of acne management have not altered in the past decade.

Sulzberger and his colleagues consider that the systemic administration of the broad spectrum antibiotics and the "safer" sulphonamides have done more to improve the management of acne vulgaris than any other measure during the past 10 years. They point out that this involves the long-term administration of the selected agent, and that both among the lay public and among doctors this policy is sometimes regarded as potentially dangerous. They consider that some of these fears are unjustified, and in their present study they have attempted to evaluate the effectiveness of selected orally administered antibiotics and sulphonamides in the management of acne vulgaris, and the nature and degree of the side-effects encountered in the long-term and short-term use of such drugs. The indications for and rationale of such treatment are discussed, and the results obtained with it in the management of 208 patients with moderately severe or severe pustular and cystic acne or acne conglobata are presented. The duration of courses of treatment varied from two days to over six years, and the results are described as good or excellent in about two-thirds of cases. Sixteen different preparations were used, including three types of penicillin and two different sulphonamides (sulphafurazone and sulphadimethoxine), but the majority of patients were treated with either tetracycline hydrochloride alone or tetracycline phosphate with nystatin. Only 27 patients developed complaints which required discontinuation of the drugs which they were taking, and most of these were able to continue with one of the alternative preparations. The only serious complication encountered was a case of vaginitis due to *Candida albicans*, and all minor complaints disappeared within a few days after medication was discontinued. The dosage scheme adopted for broad spectrum antibiotics was 250 mg. four times a day for four days, three times a day for three days, and twice daily for seven days; at the end of this period the response was evaluated, and the dose adjusted as thought necessary.

In their more comprehensive review of recent advances in the knowledge and management of acne vulgaris, Baer and Witten begin by pointing out that though a great deal has been learned about the pathology of the sebaceous gland and hair follicle in the past decade, this has had little direct effect on the treatment of the disease. They note the increasing interest on the part of commercial pharmaceutical concerns, which has led to a more active search for improved therapeutic and cosmetically acceptable preparations, and the concomitant stepping up of the advertising barrage on the subject directed at American youth through the media of television, radio and the Press. Many of the claims made are highly exaggerated, but Baer and Witten think that some good may have been achieved by the instilling of a more hopeful attitude among acne sufferers as to the possible benefits of treatment, and they state that it is nowadays rare to see an acne patient who has not already tried to treat himself with one or more of the available proprietary preparations. These changing attitudes also demand a more helpful and understanding attitude on the part of the family doctor. The management of acne is essentially a matter of tiding the patient over the acne period, and Baer and Witten suggest three objectives to be borne in mind, (i) to keep the patient cosmetically presentable, (ii) to prevent the development of more serious forms of the disease, and (iii) to prevent permanent scarring of the skin and of the psyche.

Baer and Witten present a full and informative discussion of the pathogenesis of acne, and of the various exciting factors which have been implicated. Turning to the details of the management of the condition, they first summarize what they consider to be the essentials of a combined therapeutic approach to the condition, then give notes on cleansing agents, degreasing agents, "peeling" preparations, topical anti-infectious and anti-inflammatory agents, and the relief of the irritation produced by peeling agents. They refer to therapeutic trials of topical steroid preparations which have led them to conclude that such preparations have no beneficial effect on the acne itself, but are very useful in relieving irritation or excessive dryness resulting from other forms of external therapy. They then present a brief account of the use of systemic therapy with antibiotics and sulphonamides. In this they first stress the importance of the ruling out of any history of known allergic sensitivity or other undesirable side effects due to antibiotic or chemotherapeutic agents before embarking on this type of therapy. Their preferred preparation is a combination of tetracycline with nystatin, in the dosage prescribed by Sulzberger *et alii*. Once definite and continued improvement is apparent, they try to discontinue the drug; but if this is not possible, the dosage is kept at the minimum level sufficient to maintain a favourable response. Baer and Witten state that for almost a decade they have been using this method of treatment, and have managed many hundreds of acne patients on such schedules without encountering a single serious or irreversible side effect. They note that Sulzberger and Witten prescribe two tablets of vitamin B complex daily while the broad-spectrum antibiotics are being taken, but that Baer does not use supplemental vitamin therapy, and that in both practices the incidence of side effects is very low. Orally administered penicillin has proved helpful in some cases, and may be tried where the broad spectrum antibiotics have failed. A starting dose of at least 1,200,000 units of penicillin daily, in divided doses, is recommended. Sulphonamides may also prove useful where antibiotics have failed or are not well tolerated, and sulphafurazole is suggested in doses up to 1·0 gramme four times a day, or sulphadimethoxine, 0·5 gramme twice daily. When sulphonamides are used Baer and Witten advise a blood count and urine examination every two weeks at first, and if there are no signs of ill effects, then at four-week intervals. They have found

[1] *J. Amer. med. Ass.*, 1960, 173: 1911 (August).

chloramphenicol to be by far the most effective antibiotic in treating acne vulgaris, but they use it only in exceptional cases because of reports of the rare occurrence of severe blood dyscrasias after its use. If it is used, they advise a blood count each week for the first eight weeks, and then at fortnightly intervals till four to six weeks after the cessation of therapy.

In the remainder of their article, Baer and Witten discuss hormone therapy, X-ray therapy and dermabrasion. The first two are recommended in certain cases in which conventional therapy has failed and the use of antibacterial agents has been unsuccessful or is contraindicated. Hormone treatment is considered most suitable for trial in women in whom exacerbations of acne occur in association with the menstrual period, or in those in whom acne of the chin and adjacent areas persists beyond the usual age. In such cases it is of course necessary first to exclude any endocrine dysfunction which might contraindicate such treatment. As regards X-ray therapy, Baer and Witten consider that it has fallen into disrepute because of unfounded fears of local damage as well as of undesirable genetic effects, and they believe that X radiation is an excellent form of therapy in certain cases and is safe if used properly and in proper dosage; they state that all available evidence indicates that a total dose of 1000*r* of superficial X rays in divided doses of 85*r* weekly will have no harmful sequelæ, and that it appears entirely unreasonable to withhold X-ray treatment in severe and scarring forms of acne when other methods have failed. Dermabrasion is, of course, a method of treatment not of acne but of the late effects of acne, and Baer and Witten evidently regard it with considerable reservations. Not all types of acne scarring can be benefited by it, there is a danger of abnormal cutaneous responses, such as keloid formation, and in their experience, "neurotic, psychotic or otherwise unstable individuals" make up a large proportion of patients who seek this form of treatment. In their practice they recommend dermabrasion for only one out of every seven or ten patients who come asking for it. Baer and Witten conclude by stating that the best present-day therapy for acne vulgaris consists of the combination of the short-term and long-term use of antibiotics and therapeutic agents with the previously available topical and other measures, and with avoidance, in so far as possible, of all those factors which are known to contribute to its pathogenesis.

LONGER LIFE THROUGH DRUGS.

PREVIOUS REFERENCES have been made in these columns to claims made by Dr. Anna Aslan, of the Parhon Institute of Geriatrics in Rumania, on the beneficial effects of injection of a drug called H-3, which is apparently identical with procaine hydrochloride, on longevity in man. The Rumanian Government has publicized these claims widely. Little seems to have been done to determine whether the results claimed have any validity or whether the original experiments were satisfactorily controlled. According to Dr. Aslan, rejuvenation is not the major value of H-3, but rather its curative properties in a variety of disorders. However, the longevity aspect has been most publicized. In order to get more acceptable data on the effects of the drug J. O. Snigel, J. Piller, C. Murphy, C. Lowe and J. Gibson[1] carried out a preliminary double-blind clinical trial. The drug used was procaine hydrochloride in a buffered 2% solution. For controls physiological solution of sodium chloride or buffered water was used. Treatment consisted of the intramuscular injection of 5 ml. of solution three times a week for four weeks, followed by a ten-day interval with no treatment, and then another series of twelve injections. Patients were first tested for allergic reactions to procaine.

Sixty geriatric patients from a group with arthritis, nervous disorders and senile mental disturbances were chosen for the study. During the first course there was no objective evidence of physical improvement in either those receiving or those not receiving the drug. During the second course there was some evidence of physical improvement and increased well-being in those receiving the drug as well as in some not receiving it. Of the control group of 21, who continued treatment, 1 showed marked improvement, 3 moderate and 5 slight. Of the procaine group of 29, 15 showed marked improvement, 9 moderate and 1 slight. Early benefit from procaine therapy consisted of a sense of well-being, a more normal mental attitude towards self and others, greater muscular power and improved texture of the skin. No evidence was obtained that the procaine therapy reduced the biological age below the chronological age, nor was there increased libido.

The results of this trial are very limited and no far-reaching conclusions can be drawn. It has been pointed out before that the treatment of rheumatoid arthritis with procaine injections is not new, but in recent years has been eclipsed by more effective measures. This trial seems to have produced some evidence that procaine injections may have favourable effects in certain chronic disease conditions, but the experiments have not been continued long enough to determine whether the apparently favourable effects are lasting. The value of courses of procaine injections to the aged and chronically ill must still be regarded as at best *sub judice*, but the case for them certainly has nothing to gain from the study by T. O'Connell and F. Ofner published recently in this journal.[2]

[1] *J. Amer. Geriat. Soc.*, 1960, 8: 785 (October).

EXPERIMENTAL TRACHOMA PRODUCED BY A WESTERN AUSTRALIAN VIRUS.

THE cause of trachoma for many years remained an enigma. Various theories had been formulated, but isolation of an infecting agent had eluded workers until T'ang and his colleagues isolated the virus in 1957. This was confirmed in 1958 by Collier and others, who in addition completed the cycle by producing the disease in a human volunteer.

In 1960 D. Perret and I. Mann[1] described the isolation of the trachoma virus from a three-year-old half-caste boy living in Western Australia, but with commendable scientific restraint they concluded that confirmation of its identity must await positive results from inoculation of the agent on to the conjunctiva of Rhesus monkeys and, if possible, human volunteers. Now I. Mann, C. H. Greer, D. Perret and C. McLean[2] have successfully completed the cycle, as did Collier, and have produced the disease in a human volunteer using virus isolated from the half-caste boy. The infected volunteer developed mucopurulent conjunctivitis, epithelial keratitis, preauricular adenitis, granular follicles, pannus and typical cytoplasmic inclusions. Finally, the virus was recovered from conjunctival scrapings and again cultured and passaged in eggs.

The disease was allowed to progress in the human volunteer for 30 days, and treatment was then instituted, consisting of one tablet of "Lederkyn" given daily and "Aureomycin" ointment applied locally every two hours; within 24 hours all discharge had disappeared. In a previous experiment Mann had shown that the response to "Lederkyn" was quicker and better than to that of the other sulphonamide drugs tried. An additional advantage is the ease of administration.

Mann and her co-workers have now joined a select band of scientific workers who have been able to isolate the virus of trachoma and to reproduce the disease in a human volunteer. To Australia in particular this means that the eradication of trachoma may at last become possible.

[1] MED. J. AUST., 1: 514 (April 8).
[2] *Brit. J. Ophthal.*, 1960, 44: 503 (August).
[3] *Brit. J. Ophthal.*, 1960, 44: 641 (November).

Abstracts from Medical Literature.

MEDICINE.

Causes and Effects of Lengthy Diabetes.

W. R. ROGERS AND B. HOLCOMB (*A.M.A. Arch. intern. Med.*, May, 1960) discuss the causes and effects of long-term survival in diabetics. A group is described of 114 diabetic patients who had lived for 25 years or longer as diabetics; the average survival time among diabetics in general is 16 diabetic years. The authors find that the longevity of the group under discussion is attributable to: (i) the leading of a well-ordered life including, in most cases, the careful control of the metabolic defect; (ii) the development of diabetes at a younger-than-average age; and (iii) a more favourable heredity. In 30% of the group no degenerative diabetic complications developed, and nearly all of these are still living, while half of those with complications have died. Cardiovascular and renal conditions accounted for 82% of deaths and none died from diabetic coma, cancer, or primarily from an infection. The authors conclude by stating that, at a time when oral glucotropic agents are tending to foster less control by some diabetics, their present study reinforces the doctrine that maintenance of as nearly normal a metabolic status as possible can usefully prolong the diabetic person's life.

Dexamethasone Therapy in Rheumatoid Arthritis.

J. ZUCKNER *et alii* (*Amer. J. med. Sci.*, July, 1960) discuss dexamethasone therapy with gastric function studies in 54 patients with rheumatoid arthritis. It is concluded that dexamethasone, which is another new synthetic anti-rheumatoid steroid, does not satisfy the criteria for a potent anti-inflammatory drug with a minimum of undesirable physiological side effects. Undesirable reactions to dexamethasone were at least as frequent as to other steroids, and in some cases were more prominent. Noteworthy were œdema, marked bloating, increased appetite and weight gain. The diabetogenic effect requires further evaluation, but preliminary information from these studies suggests that there may not be a decrease in diabetes as a complication. Peptic ulceration developed in four patients, but the time incidence of this side effect requires additional study. Dexamethasone caused no consistent alteration in gastric juice production.

Nodular Goitre.

R. F. STOFFER *et alii* (*Arch. intern. Med.*, July, 1960) discuss the incidence of nodular goitre in Kansas, its morphology before and after the institution of iodine prophylaxis, and its clinical diagnosis. The primary concern with nodular goitre is not the incidence of thyroid cancer, and treatment is a matter of individualization in each case. In this series of 3029 thyroidectomies, in 206 cases (6·8%) the lesion was malignant. The preoperative diagnosis of carcinoma was correct in 31% of the undifferentiated and in 9·3% of the well-differentiated cancers. Iodine-uptake studies were of no assistance in making a better clinical diagnosis of malignancy. Carcinoma occurred in 6% of multinodular and in 13·8% of solitary adenomas. The distinction by palpation of multinodular and uninodular goitres would be valuable, but was correct in only 56% of the cases studied. Comparison of goitre patients operated on before and after the introduction of iodized salt in Kansas shows an increase in the proportion of cancer cases from 7% to 13%. The death rate from thyroid cancer in Kansas has also doubled. The authors conclude that after 30 years of iodine prophylaxis the problem of nodular goitre is still present. If the patient is a good surgical risk, the treatment of choice for nodular goitre is still thyroidectomy before toxic or mechanical symptoms develop, and before a clinical diagnosis of cancer can be made.

Clinical Manifestations of Infectious Mononucleosis.

R. J. HOAGLAND (*Amer. J. med. Sci.*, July, 1960) analyses the clinical manifestations of 200 consecutive, personally observed patients with infectious mononucleosis. All but 10 were treated as hospital in-patients, and all had characteristic hæmatological and heterophil antibody reactions. Clinical features were fairly uniform, with lymph node enlargement present in all cases, and pharyngitis in four out of five cases. In 8% jaundice was present. Three clinical syndromes are proposed: pharyngeal, typhoidal, icteric. This large consecutive series of in-patients provided a chance to get an approximation of the frequency of complications. Only five complications were observed, none more than once. These were: rupture of the spleen, facial nerve paresis, mild meningitis, salivary gland inflammation and complete A-V heart block. Patients were usually febrile for two or three weeks, and all recovered. Prolonged weakness or recurrence was not observed. Five reasons for the discrepancy between these observations of clinical uniformity, and the oft-repeated statement that mononucleosis is protean are presented. The chief of these is wrong diagnosis, especially in the absence of serological and hæmatological confirmation.

A Double-Blind Control Study of Antihypertensive Agents.

THE INITIAL REPORT (*Arch. intern. Med.*, July, 1960) of the Veterans Administration Cooperative Study on Antihypertensive Agents is presented. This is a study of the comparative effectiveness of reserpine alone, reserpine and hydralazine, and three ganglion-blocking agents (chlorisondamine, mecamylamine and pentolinium tartrate). A double-blind controlled study was made on 326 male hypertensive patients followed for at least three months; of these, 232 completed one full year of unchanged treatment. In each regimen, the average for the final month of blood-pressure recordings was compared to the average "basal" pre-treatment values. In mild hypertension, reserpine (0·5 mg. per day maintenance dose) plus hydralazine (200 mg. per day) was more effective than reserpine alone or placebos. Reserpine alone may have been slightly more effective than placebo, but the difference was not significant. In moderately severe hypertension, the reserpine plus hydralazine regimen was considerably more effective than either reserpine alone or placebo. Reserpine plus hydralazine produced as great a reduction of blood pressure as reserpine plus ganglion-blocking drugs in moderately severe hypertension. All three of the ganglion-blocking agents produced significant reductions of blood pressure, but there were no significant differences in anti-hypertensive effectiveness among mecamylamine, chlorisondamine and pentolinium tartrate. Therapy was discontinued in nine of 101 patients begun on the reserpine plus hydralazine regimen because of headache in two, depression in two, gastro-intestinal upset in two, nervousness in one, œdema of the legs in one, and dermatitis and nightmares in one. In four patients on reserpine alone therapy was stopped because of nausea, possible depression and/or impotence. Slight differences in frequency of side-effects occurred with certain of the ganglion-blocking drugs. Chlorisondamine therapy was associated with more frequent disturbances of visual accommodation, while mecamylamine produced slightly more dryness of the mouth and difficulty in micturition than the other two agents.

Bone Disease in Chronic Renal Failure.

M. KAYE *et alii* (*Amer. J. Med.*, May, 1960) state that bony involvement in chronic renal disease is well known although infrequently recognized during life. Osteomalacia with widened osteoid seams is histologically the commonest bony abnormality. It is most readily seen in childhood when, because of rapid bone growth, the supply of minerals and vitamin D can easily become inadequate. In adults, these requirements are less and osteomalacia is usually not recognized until the bones are examined microscopically. Osteitis fibrosa is another type of bony involvement found in renal failure. Irregular absorption of bone with fibrous tissue proliferation is the histological picture, and this may be combined with osteomalacia. Florid osteitis fibrosa is usually associated with marked parathyroid hyperplasia. Recently a third type of bone disease has become increasingly recognized, osteosclerosis. In a comprehensive review of the subject, the authors describe 12 patients with osteosclerosis associated with chronic pyelonephritis. The mechanism of this bone change remains unknown.

Survival after Myocardial Infarction.

O. W. BEARD *et alii* (*Amer. J. Med.*, May, 1960) have analysed and followed up 503 veterans with an initial transmural myocardial infarction. Advanced age of the patient, a history of hypertension, a definite history of angina, thromboembolic complications, shock, congestive failure, serious arrhythmias, high pro-

longed fever and marked leucocytosis were all found to have an adverse effect on the immediate mortality rate. Except for atrio-ventricular block, marked leucocytosis, shock and thrombo-embolic complications, the same factors had an adverse effect on the five-year mortality rate of recovered patients. The authors found in their material that the mortality rate is about 4% *per annum* for patients under 50 years of age who survive the first anniversary of their attack. The mortality rate becomes stabilized at about 9% *per annum* for patients over 50 years of age who live to the seventh month after their first transmural myocardial infarction. The authors emphasize that, in those patients who survive six months after their initial infarction, the prognosis is relatively good and the mortality rate, all things considered, is quite low.

Natural History of Hypertension.

J. A. HAGANS AND A. A. BRUST (*Amer. J. Med.*, June, 1960) have re-examined the natural history of hypertension. Two hundred and twelve patients with various forms of hypertension were classified according to the changes in the optic fundi and their degree of target organ involvement. They were followed up for an average period of four years, during which time they received no anti-hypertensive drug therapy but were given general medical treatment as indicated. The most important single factor determining life expectancy was the presence or absence of significant renal failure. In the absence of uræmia the degree of change in the optic fundi and the severity of other target organ involvement seemed most markedly to influence the patient's prognosis. Those with elevated diastolic blood pressures, irrespective of the degree of elevation who manifested benign changes in the optic fundi and no evidence of target organ decompensation, enjoyed a life expectancy approximating that of the general population for a similar age group.

The Cornea and Arteriosclerosis.

H. LINDHOLM (*Acta med. scand.*, September 21, 1960) has examined 1614 patients above the age of 30 years for the presence of the arcus senilis, for which he thinks a better name is arcus lipoides corneæ. Of these, about one in three exhibited the arcus and about one in 18 had suffered infarction of the heart; but there was no greater incidence of demonstrable arteriosclerosis or of cardiac infarction in those with the arcus than in those without.

Myocardial Infarction after Cessation of Anticoagulant Therapy.

L. R. DINON AND J. B. VANDER VEER (*Amer. Heart J.*, July, 1960) report 20 patients who suffered a recurrence of acute myocardial infarction following the abrupt or relatively rapid withdrawal of oral anticoagulant therapy. All these recurrences were seen within four weeks after the last dose of the drug, and it is the authors' impression that this high recurrence rate after abrupt cessation of treatment is more than fortuitous. The authors state that consideration should be given to more prolonged anticoagulant therapy after clinical recovery from the first attack of acute myocardial infarction. They suggest that such therapy be maintained in the average patient for six to eight weeks after ambulation is resumed. Further treatment will depend upon clinical observation of the individual during this period of increasing physical activity. Angina pectoris, heart failure or other conditions may indicate in some patients the advisability of long-term anticoagulant therapy. In favourable cases treatment may be gradually discontinued. Tapering off should be guided by weekly prothrombin estimations and should extend over a period of at least four weeks.

Reversion of Bundle Branch Block with Steroid Therapy.

J. A. PERKINS (*Amer. Heart J.*, July, 1960) reminds us that transient bundle branch block was first mentioned by Lewis in 1913. It is generally regarded as a rare event and when bundle branch block is present for several months it is nearly always permanent. The author describes the case of a man aged 54 years, probably suffering from a collagen disease, who when first seen showed a left bundle branch block in the electrocardiogram. After steroid therapy the electrocardiogram showed reversion to normal conduction. The author postulates that the pathological process in the conducting bundle was arrested whilst in the inflammatory stage before secondary changes developed.

The Blood in Phenacetin Addiction.

T. FRIIS *et alii* (*Acta med. scand.*, October 17, 1960) report that while investigating the reduced life span of the red blood corpuscles in persons addicted to phenacetin, they transfused chromium-labelled corpuscles from phenacetin addicts into normal persons, when it was found that their life-span became normal, and from normal persons into phenacetin addicts, when it was found that their life-span became reduced. Thus it would seem that something in the plasma of the phenacetin addicts harmfully affects the red corpuscles. Prednisone was found to counteract this harmful effect.

Eosinopenia in Infarction of the Heart.

K. KIRKEBY AND B. PAUDAL (*Acta med. scand.*, September 21, 1960) have made eosinophil counts in 523 patients with infarction of the heart. They have found that eosinopenia was present in 95% of the patients on the day of the infarction and on the following day, and state that the finding of a normal eosinophil count in this period is strong evidence against a diagnosis of infarction of the heart. Continuing eosinopenia denotes a poor prognosis.

Gonadal Dysgenesis, Rheumatoid Spondylitis, Hypertension and Multiple Congenital Anomalies.

W. V. CHOKAS (*Amer. J. Med.*, June, 1960) reminds us that in 1938 Turner described a group of young women with a syndrome of shortness of stature, absence of breast development, sparse axillary and pubic hair, webbed neck and cubitus valgus. Increased urinary excretion of gonadotropins established a primary gonadal defect for this syndrome. After the discovery by Barr and his group that the sex of an individual was recognizable by the nuclear chromatin pattern of somatic cells, many patients with gonadal agenesis were found to be genetic males. The author reports the case of a 21 year old married white woman with unexplained hypertension, gonadal dysgenesis and associated congenital abnormalities. Proper hormonal replacement therapy was beneficial both physically and psychologically.

Salicylate Poisoning.

J. U. CRICHTON AND G. B. ELLIOTT (*Canad. med. Ass. J.*, November 26, 1960) found that in 58 cases of salicylate poisoning the drug had been taken with suicidal intent in 17 and that the remaining 41 patients were all children under the age of seven years. Many of these children had been given salicylates by their parents for minor illnesses. When intoxication developed, the cardinal signs, overbreathing, dehydration, twitching, pyrexia and high leucocytosis, were often thought by the doctor to herald pneumonia. The authors emphasize that air hunger in infants should be regarded as due to salicylism until proved otherwise. Treatment is by gastric lavage and the correction of disturbed fluid and electrolyte balance. It is desirable that the manufacturers of salicylates should help in educating the public to realize that salicylates are deadly poisons to young children.

Periosteal Chest Wall Pain after Myocardial Infarction.

H. ROESLER (*Amer. J. med. Sci.*, October, 1960) presents the clinical records of two patients manifesting periosteal chest wall pain as part of the post-myocardial-infarction syndrome. In both cases recent myocardial infarction was followed by evidence of periosteal involvement of chest wall structures, giving rise to pain that was abolished by the local injection of a corticosteroid. This periosteal involvement is thought to be of an allergic inflammatory origin, and represents an addition to the triad of pneumonitis, pleurisy and pericarditis that characterizes Dressler's post-myocardial-infarction syndrome.

Asymptomatic Myocardial Infarction.

H. A. LINDBERG *et alii* (*Arch. intern. Med.*, November, 1960) discuss totally asymptomatic myocardial infarction, and endeavour to present an estimate of its incidence in the living population. The results of a study of the incidence of coronary heart disease and totally asymptomatic myocardial infarction in 756 men aged 50 to 59 years during a four-year period are reported. Forty-one new cases of coronary heart disease developed during this period, and among these there were 20 cases of definite myocardial infarction; in three of these the infarction was totally asymptomatic. The authors conclude that routine periodic electrocardiographic examinations, widely applied, will detect a significant number of totally asymptomatic myocardial infarctions.

Medical Societies.

PÆDIATRIC SOCIETY OF VICTORIA.

A MEETING of the Pædiatric Society of Victoria was held on February 10, 1960, at the Royal Children's Hospital, Melbourne.

Ascaris Infestation among Aboriginal Children.

DR. W. J. STEVENSON presented the results of an investigation into ascaris infestation in aboriginal children. This paper has not been made available for publication.

Recent Advances in Fluid and Electrolyte Therapy.

DR. M. ROBINSON discussed fluid and electrolyte therapy. He said that in 1948 Darrow had made a fundamental advance in our knowledge of body composition and homœostatic mechanisms. He had shown that there was a definite relationship between the concentration of bicarbonate in the serum and that of sodium and potassium in the cells. Furthermore, he had shown that the serum bicarbonate level varied directly as the intracellular sodium level and inversely as the intracellular (muscle) potassium level. As a corollary he had found that muscle sodium and potassium levels bore inverse relationships to each other. Those biological adjustments had become known as the "Darrow Shift". Its clinical import was now well established, so that in states of dehydration associated primarily with potassium loss, alkalosis could be predicted; that alkalosis could not be corrected with sodium chloride if the potassium deficiency persisted; and in states of acidosis the dose of sodium bicarbonate necessary for correction was uncertain, because sodium might enter or leave the cells according to the presence or absence of a concomitant potassium depletion. It seemed that at least the kidney, the tissue cells and also adrenocortical hormones were involved in that mechanism.

Dr. Robinson went on to say that Berliner, Kennedy and Orloff had postulated that alkalosis in potassium-deficient states resulted from the excessive substitution of hydrogen and ammonium ions for sodium in the distal tubule of the kidney. In that way chloride was excreted without sodium, and hypochloræmic alkalosis of the extracellular fluid resulted. Cooke, Segar, Cheek, Colville and Darrow had found that the low pH of the urine and high urinary ammonia content which occurred with the correction of extracellular alkalosis could not be explained on the basis of the extracellular fluid alone. They found that for each three potassium ions lost from the cell, two sodium and one hydrogen ion entered. In correction with potassium chloride, the reverse occurred and a strong acid (hydrochloric) was formed, which reacted with the extracellular bicarbonate to form carbon dioxide. If respiration was normal, dissolved carbon dioxide was of little importance in altering the electrolyte pattern of the extracellular fluid. The repair of alkalosis with potassium chloride thus resulted in extracellular acidosis, the renal findings (low pH, high titratable acidity and high urinary ammonia content) implying renal compensation. The mechanisms concerned in conservation of base (cation) were well understood, but the big problems that arose were why the kidney did not compensate for excess cation over anion and what mechanisms were involved in conservation of anion. Answers to those problems might be obtained from study of the intermediary metabolism in such states.

Metabolic alkalosis was associated with adrenocortical over-activity; it was seen clinically in Cushing's syndrome, and post-operatively in certain severely ill patients. There was no doubt that potassium administration would prevent alkalosis in those patients, but recent work threw doubt on the view that the metabolic alkalosis was invariably the result of potassium deficiency. Gamble and Grollman, working with dogs, had recently shown that the adrenal cortical steroids could increase the serum bicarbonate concentration and the pH by a mechanism that was not dependent on potassium deficiency or an increased excretion of that ion. Secondly, they had shown that recovery from alkalosis could not be correlated with excessive excretion or retention of potassium. Dr. Robinson said that in a third series of experiments in which he himself had been involved, dogs had been given restricted amounts of sodium and basal potassium so that they could not be potassium-deficient. Despite that, the dogs had become alkalotic when given adrenal cortical steroids. Thus it had been possible to vary alkalosis and potassium deficiency under certain experimental conditions. That had been the first time that the Darrow Shift had been questioned. The explanation was quite obscure.

Turning to the nephrotic syndrome, Dr. Robinson said that it was well known that in the diuretic phase of nephrosis—either spontaneously occurring or induced by steroids—the patient was alkalotic. That was reflected by alkaline urine, a high plasma bicarbonate level and a slightly elevated pH. Unpublished balance studies showed that that was not due to retention of cation (sodium) or excess excretion of anion (chloride), or to excessive losses of potassium related to the losses of nitrogen (normally 3 mg. of potassium were lost per gramme of nitrogen). It was interesting that in that phase much larger losses of magnesium, phosphate and calcium occurred than would be expected from the nitrogen loss. That suggested that intracellular breakdown was occurring. It was also interesting to speculate whether there were losses of fluid and electrolyte into the bowel which might explain the alkalosis.

Howell had shown that DCA could induce significant losses of potassium through the gastro-intestinal tract. An interesting approach to that problem would be an analysis of the bowel electrolytes excreted. Intestinal biopsy too might be interesting, as it was a known fact that absorption was not good in nephrosis and that diarrhœa was not infrequent, the malabsorption particularly applying to nitrogen and potassium.

Dr. Robinson then considered some neurological aspects of disorders of body composition. He said that it was well established that in states of hypernatræmia neurological sequelæ were frequent. The dehydrated, hypernatræmic infant was irritable and restless, might have neck and spine stiffness, and quite frequently had convulsions. The mental deterioration seen in diabetes insipidus was now being related to hyperelectrolytæmia, and attempts were being made to reduce the renal osmolar load and to prevent the serum hyperosmolarity and, it was hoped, the retardation. Finberg and Luttrell had reported macroscopic and microscopic evidence of subarachnoid and subdural bleeding in hypernatræmia, both in infants and in experimental animals. Spasticity and severe mental retardation had followed. Work was now being directed towards understanding the mechanisms involved. It seemed that the rapid water shift from the cells to the extracellular fluid, with the consequent reduction in brain size and intracranial pressure, produced expansion of small cerebral vessels. It did not seem unreasonable to suppose that small ill-supported vessels might tear in these circumstances.

To maintain osmotic equilibrium between the cells and the extracellular fluid in hyperelectrolytæmia, there were at least three possibilities: water might move out of the cells; solute might enter the cells; or complex intracellular molecules might dissociate into smaller units, thereby increasing the osmolar concentration (so-called idiogenic osmols). There was good reason to believe that all three mechanisms operated. It was not difficult to imagine that with intracellular dissociation, aberration of function might occur.

Talbot's group in Boston were studying hypernatræmia in rabbits induced by 6% saline solution, hypertonic urea solution and 10% mannitol solution. Certain predictable changes occurred — namely hypernatræmia and hyperchloræmia and a rise in blood sugar level, and acidosis which was not explained by balance data, but was due to a shift of sodium into the cells. Extracellular potassium levels were only slightly increased. The very high intracellular concentrations of potassium, phosphate, etc., which occurred terminally, suggested intracellular breakdown. An unaccounted-for fraction (the so-called idiogenic osmols) was again demonstrated in the cells. Electroencephalographic studies showed pronounced changes during that phase of intracellular electrolyte derangement. Structural changes in the brain were also found, but were not a constant feature.

The next step quite clearly was to investigate how those electrolyte derangements affected intermediary metabolism within the cell. Some progress had been made. Dodge had made animals hypotonic with water infusions and produced symptoms compatible with the state of acute toxic encephalopathy which occurred in infants. The symptoms were irritability, restlessness, stupor, coma and seizures. The cerebro-spinal fluid pressure was greatly increased, and electroencephalographic changes were the rule. Meningitic signs were not prominent, as they were in hypertonic dehydration. The cerebral swelling produced might result in brain herniation through either the incisura or the foramen magnum, producing decerebration and the signs of medullary failure. Hypotonicity might be produced

clinically if excess dilute fluid were given to unconscious patients. It also had to be remembered that anæsthetics, barbiturates, morphine and pethidine produced antidiuretic effects, so that great care had to be taken with intracellular fluids after those drugs were given. Care also had to be taken with the intravenous administration of fluids in meningitis and in other types of central nervous system lesions, including febrile convulsions, as disturbances of cerebral function might profoundly alter fluid and electrolyte homœostasis.

Dr. Robinson finally considered changes in body composition occurring in chronic malnutrition. He said that Metcoff *et alii*, working in Mexico, had produced some interesting data on malnourished children. Such children tended to adapt themselves by almost complete cessation of growth. There were decreased ability to meet stress and frequent non-infective diarrhœa. Starvation œdema could occur only in the presence of subcutaneous fat. Those children were frequently hyponatræmic, with intracellular hypotonicity. The intracellular volume was increased, and the extracellular volume was usually but not always decreased. Muscle potassium concentration was decreased, but total muscle potassium content was normal. Metcoff had been unable to confirm the Darrow Shift in those children. An additional hazard with them was their very poor renal function with polyuria, so that any additional losses of fluid from the gut were often fatal. When the infant was in an acute state of dehydration, a pronounced increase in intracellular sodium content occurred together with idiogenic osmols. Metcoff had some data on the disordered cellular metabolism in that state of gross intracellular electrolyte upset.

DR. DORA BIALESTOCK said that a high potassium concentration had been found to predispose animals to pyelonephritis. She asked whether there was any clinical evidence that that happened in man.

Dr. Robinson replied that he was not aware of any such evidence.

DR. A. WILLIAMS pointed out that there was considerable variation in the concept of nephrosis held by various authorities in the United States.

Dr. Robinson agreed that there was considerable confusion regarding the pathology of the nephrotic syndrome. Hyalinization of the basement membrane seemed to be one criterion that was generally agreed on.

DR. H. WILLIAMS asked what was the cerebro-spinal fluid pressure in the hypernatræmic animals referred to. He had observed a bulging fontanelle in hypernatræmic infants; he asked how that could be explained by the quoted view that the brain volume was decreased.

Dr. Robinson replied that Finberg's finding was that the cerebro-spinal fluid pressure was not raised.

Out of the Past.

THE DOCTOR'S DUTY.[1]

[From the *Australasian Medical Gazette*, July 21, 1902.]

"BELIEVE me, experience is no natural growth in us; it is not commensurate with age. After about thirty wise men grow wiser, but unwise men rarely grow wise. Therefore there are many old men with no experience at all. At the right time of life they did not learn how to learn, and ever since, although working in the field of knowledge, working it may be as hard as wiser men, they have only been gathering weeds. Among them are they who, to use a sacred allegory, are constantly sowing tares among the wheat. . . . Your engagement in this profession binds you not only by considerations of your own interest, but by the weightiest responsibility to God and man to do your duty in it with all your might. Keep this constantly in view—daily remind yourselves that you propose to take in your hands the lives and the welfare of your fellow men. Think quietly what this involves, and then you will daily decide that not even your own lives must be much dearer than the duties of your profession."

Sir James Paget, as quoted by R. Scot Skirving in "On Aims and Means in Medicine".

[1] From the original in the Mitchell Library, Sydney.

Correspondence.

VACCINATION IN INFLUENZA: PUBLIC HEALTH ASPECTS.

SIR: Dr. W. S. Davidson has published an interesting analysis of an influenza epidemic that occurred in April, May, June, 1959, in Western Australia (MED. J. AUST., March 25, 1961). For his data he has relied on: "the criterion of diagnosis was an influenzal type disease lasting for at least three days".

A survey of the common cold was made in Canberra from August, 1958, to August, 1959 (the report on this survey is to be published shortly). It thus covered the period April, May, June, 1959. This survey shows that the allergic cold was in excess of the infectious cold over this period by an average of 30%, but with quite considerable variations. The months of March, April and into May is the period of the year for maximum allergic symptoms. In the beginning of the colder weather these symptoms frequently appear to be similar to, and are confused with, influenza.

It appears to me that in a number of published reports of virus-type respiratory infections, including this report, unless a proper allowance is made for the allergic response, the figures quoted are fallacious.

Yours, etc.,
CLIVE C. SANDS.

Box 204,
Canberra City,
Australian Capital Territory.
April 5, 1961.

THE PATTERN OF MEDICAL PRACTICE IN AUSTRALIA.

SIR: In your editorial of February 4, 1961, "An Advance in Post-Graduate Medical Education", in referring to the pattern of practice in Australia you said that at the recent Conference on Post-Graduate Medical Education, the Commonwealth Minister for Health, Dr. Cameron, and myself as the Chairman of the Conference, had expressed the view that, by tradition and force of local circumstances, medical practice in Australia has developed and undoubtedly will continue to develop on its own special and particular pattern.

Chief among the forces of local circumstances is Australia's geography—its great expanses, its far distances and its concentrations of population in comparatively few areas. Most of these influences have been investigated and their effects are fairly well known. However, one aspect in which Australia appears to be showing signs of developing its own particular pattern of medical practice, which has never been seriously studied or investigated, although it has come in for considerable comment and criticism, especially by overseas visitors, is the extent to which Australian general practitioners undertake medical and surgical procedures which in other parts of the world are wholly or for the most part regarded as being within the realms of specialists. As this problem has considerable bearing on the planning of the future development of post-graduate medical education in Australia, I asked Dr. Cameron whether he might be able to supply me with some definite figures on the subject. Dr. Cameron arranged for Dr. C. E. A. Cook and Dr. A. Johnson, of the Commonwealth Health Department, to call on me about the matter. They suggested that indications of the pattern might best be obtained by a survey of the proportions of certain selected services rendered to patients in New South Wales by general practitioners and by specialists under the National Health Scheme. This information was obtained through the cooperation of the Medical Benefits Fund, Sydney. The items selected and the number of claims examined were as follows:

Item 14	appendicectomy	692
Item 11	cholecystectomy	149
Item 150/151	hysterectomy	220
Item 736	hysterectomy (vaginal)	15
Item 571	radical amputation of the breast	17
Item 217	confinement	1990
Item 555	gastrectomy (partial or complete)	15
Item 556	gastrectomy (partial) and gastro-jejunostomy	
Item 557	gastro-enterostomy or entero-colostomy	
Anæsthetics, other than gaseous		4074
Anæsthetics, gaseous		634

TABLE I.
Statistical Summary.

Geographical Area.	Services Rendered: Item Numbers.														Anæsthetics.				Total.
	Appendicectomy: 14		Cholecystectomy: 11		Hysterectomy: 150/151		Hysterectomy (Vaginal): 736		Radical Amputation of Breast: 571		Confinement: 217		Gastrectomy, etc.: 555/556/567		Non-Gaseous.		Gaseous.		
	G.P.	S.	G.P.	S.	G.P.	S.	G.P.	S.	G.P.	S.	G.P.	S.	G.P.	S.	G.P.	S.	G.P.	S.	
Metropolitan, balance of Cumberland	229	182	19	89	47	122	—	14	—	14	650	521	—	13	1449	932	131	368	4780
Newcastle, metropolitan	1	3	—	6	—	2	—	1	1	1	42	14	—	—	25	12	6	15	129
Wollongong, metropolitan	18	4	—	2	2	3	—	—	—	—	22	6	—	—	37	3	4	14	115
North-east quarter	44	4	9	1	12	3	—	—	—	—	168	12	—	1	490	32	17	3	796
Central Coast (other than Newcastle)	19	5	2	—	3	—	—	—	—	—	95	7	—	—	122	14	7	1	275
Southern Tableland, South Coast (other than Wollongong)	38	5	3	2	3	1	—	—	—	—	84	12	—	—	136	5	10	1	300
Riverina, South-west Slope	53	3	6	2	8	—	—	—	—	1	153	9	—	1	330	13	22	2	603
Central Tableland, Central West Slope	48	11	5	—	5	2	—	—	—	—	112	7	—	—	289	27	7	3	516
Western central plain, North central plain	15	2	—	—	2	1	—	—	—	—	36	2	—	—	82	4	5	3	152
A.C.T.	4	4	—	3	1	3	—	—	—	—	25	13	—	—	53	19	10	5	140
Total	469	223	44	105	83	137	—	15	1	16	1387	603	—	15	3013	1061	219	415	7806

It was originally intended to include radiological services in the survey, but inquiries indicated that outside Sydney, Newcastle and Wollongong, where a number of specialist radiologists are practising, most of the radiological services are provided by public hospitals. In smaller hospitals, general practitioners are permitted to use machines for X-ray of the extremities, the machines used having a capacity of between 15 and 20 milliamps (65 to 90 K.V.P.). In larger hospitals, where machines of a capacity between 200 and 300 milliamps (up to 125 K.V.P.) are used, only specialist radiologists are permitted to take X-rays.

It seems that in New South Wales, radiological services are provided by specialist radiologists except in the case of X-ray of extremities with low-powered machines, where the general practitioner on occasions operates the machine.

The classification of a doctor as a specialist or general practitioner, for the purpose of the survey, was determined having regard to whether or not he held specialist qualifications in relation to the professional services rendered. The effect of this is that general practitioners with higher degrees or diplomas have been classified as specialists, instead of general practitioners.

Details of the survey are shown on the attached Tables I and II. The tables show the geographical and statistical divisions used in classifying the information. In Table II the statistical information is expressed in percentages—e.g., the appendicectomies done in the "Metropolitan, balance of Cumberland" area totalled 411. The 229 G.P. and 182 S. are expressed as percentages of 411. The figures for the Newcastle area are small, as apparently most people in this area are covered by funds other than the Medical Benefits Fund. The figures indicate that major surgical procedures, such as vaginal hysterectomy, radical amputation of the breast and gastrectomy, are carried out almost entirely by specialists in metropolitan areas, but nearly 70% of appendicectomies in the State and 40% of hysterectomies are carried out by general practitioners.

Tables III and IV indicate the difference in the pattern in metropolitan and country areas. These show an 80% to 90% general practitioner pattern in country areas to the surgical

TABLE II.
Statistical Summary: Data Expressed as Percentages.

Geographical Area.	Item.														Anæsthetics.			
	Appendicectomy.		Cholecystectomy.		Hysterectomy.		Hysterectomy (Vaginal).		Radical Amputation of Breast.		Confinement.		Gastrectomy, etc.		Non-Gaseous.		Gaseous.	
	G.P.	S.	G.P.	S.	G.P.	S.	G.P.	S.	G.P.	S.	G.P.	S.	G.P.	S.	G.P.	S.	G.P.	S.
Metropolitan, balance of Cumberland	56	44	18	82	28	72	—	100	—	100	56	44	—	100	61	39	26	74
Newcastle, metropolitan	25	75	—	100	—	100	—	100	50	50	75	25	—	—	68	32	29	71
Wollongong, metropolitan	82	18	—	100	40	60	—	—	—	—	79	21	—	—	93	7	22	78
North-east quarter	92	8	90	10	80	20	—	—	—	—	93	7	—	100	94	6	85	15
Central Coast (other than Newcastle)	79	21	100	—	100	—	—	—	—	—	93	7	—	—	90	10	88	12
Southern Tableland, South Coast (other than Wollongong)	88	12	60	40	75	25	—	—	—	—	88	12	—	—	96	4	91	9
Riverina, South-west Slope	95	5	75	25	100	—	—	—	—	100	94	6	—	100	96	4	92	8
Central Tableland, Central West Slope	81	19	100	—	71	29	—	—	—	—	94	6	—	—	91	9	70	30
Western central plain, North central plain	88	12	—	—	67	33	—	—	—	—	95	5	—	—	95	5	63	37
A.C.T.	50	50	—	100	25	75	—	—	—	—	66	34	—	—	74	26	67	33
Total	68	32	30	70	38	62	—	100	6	94	70	30	—	100	74	26	35	65

TABLE III.

Statistical Summary: Metropolitan and Country Areas.

Geographical Area.	Services Rendered: Item Numbers.								Anæsthetics.			
	Appendicectomy: 14		Cholecystectomy: 11		Hysterectomy: 150/151		Confinement: 217		Non-Gaseous.		Gaseous.	
	G.P.	S.	G.P.	S.	G.P.	S.	G.P.	S.	G.P.	S.	G.P.	S.
Metropolitan	248	189	19	97	49	127	714	541	1511	947	141	397
Country	221	34	25	8	34	10	673	62	1502	114	78	18
Total	469	223	44	105	83	137	1307	603	3013	1061	219	415

TABLE IV.

Statistical Summary: Metropolitan and Country Areas. Data Expressed in Percentages.

Geographical Area.	Appendicectomy.		Cholecystectomy.		Hysterectomy.		Confinement.		Non-Gaseous.		Gaseous.	
	G.P.	S.	G.P.	S.	G.P.	S.	G.P.	S.	G.P.	S.	G.P.	S.
Metropolitan	57	43	17	83	28	82	57	43	61	39	24	76
Country	87	13	86	24	75	25	92	8	93	7	81	19

level of cholecystectomy and hysterectomy with little major surgery. In the metropolitan areas the work of specialists predominates in major surgery, cholecystectomy, hysterectomy and gaseous anæsthetics, but general practitioners predominate in approximately all the other fields examined, including appendicectomy, confinements and the administration of non-gaseous anæsthetics.

It is likely that patterns with even more marked general practitioner predominance exist in South Australia, Western Australia and Tasmania. The subject deserves much further study, and its implications in the development of post-graduate medical education in Australia might well be one of the main themes for the next Conference on Post-Graduate Medical Education.

I am indebted to the Minister for permission to publish these figures.

Yours, etc.,

V. M. COPPLESON.

c/- Herford House,
188 Oxford Street,
Paddington,
New South Wales.
March 22, 1961.

AN AUSTRALIAN MEDICAL ASSOCIATION.

SIR: As Dr. Hooper in his letter to the Editor (April 8, 1961) shows some misunderstanding of Branch representation on the Federal Council of the B.M.A. and of the proposals for the Australian Medical Association, I crave your indulgence for a reply.

Dr. Hooper's first cause for complaint is that the Federal Council's worst fault has been that it is often not in touch with the general body of members. Exactly what comprises "the general body of members" in Dr. Hooper's opinion is not quite clear, but it should be pointed out that representatives of the New South Wales Branch on the Federal Council, to which Dr. Hooper particularly refers, are all active members of the Branch Council, members of which are elected annually by members of the Branch. Also, it should be fully realized that the members of the Branch Council elected as the Branch representatives on the Federal Council bring to that body no policy other than that of attempting to carry out the declared policy of their Branch.

The Branch Council, at the other end of the scale, at all times maintains close liaison with local associations, providing thus a channel through which the opinions of members can be directly conveyed to Council.

Referring particularly to the Draft Constitution of the Australian Medical Association, it must be pointed out that over the last eighteen months, meetings at all levels—viz., local associations, delegates of local associations with the Council, and finally, the Australia-wide Convention in November last—have been held with a view to giving the individual member every opportunity to express his views.

Dr. Hooper expresses anxiety about the opinions of individual members finding their way to the new "Federal body". Surely it should be clear that the normal channel for individual members to approach the Australian Medical Association will continue to be through their local associations and their Branch Councils. It is expected that the constitutions of the Branches of the Australian Medical Association, in most cases, will probably be little altered from those now governing the Branches of the B.M.A., and machinery for calling special meetings, extraordinary meetings, etc., at Branch level will still exist.

At the Federal level, however, provision has been made for the individual member to speak if he wishes. Article 12 of the Draft Constitution provides for annual general meetings of members of the Association, and every member is entitled to attend. Article 15 also provides for the calling of extraordinary general meetings of members on requisition in conformity with the *Companies Act*, and here again every member is entitled to attend.

Apart from these particular provisions in Articles 12 and 15 and the requirements of the *Companies Act*, individual members, through their proportional Branch representation on the large policy-making body of the Association—namely, the Federal Assembly—must recognize that their rightful voice in the affairs of the Association has been catered for more fully than previously.

Finally, it must be emphasized that the document now submitted by Federal Council to the Branches is a draft, and if comment on it shows that it can be improved upon, such comment will certainly receive the consideration it deserves. Furthermore, after the formation of the new Association, should experience reveal that the arrangements are not satisfactory, the Articles of Association, which deal specifically with these matters, are not immutable and can be changed accordingly.

Yours, etc.,

C. J. ROSS-SMITH,
Assistant General Secretary,
Federal Council of the British Medical Association in Australia.

135 Macquarie Street,
Sydney.
April 12, 1961.

Obituary.

GEORGE SIMPSON.

WE are indebted to DR. W. M. LEMMON for the following account of the career of the late Dr. George Simpson.

George Simpson, for many years one of Melbourne's best-loved obstetricians, died suddenly in Melbourne on November 24, 1960, thus bringing to an untimely end a lifetime of untiring service to the community in many fields of activity.

His father, Archibald Joseph Simpson, was a grazier in the Hamilton district of Victoria renowned for his shorthorn stud. He had a family of five sons and a daughter, George being born in Hamilton on May 14, 1899. George received his early education at Hamilton College, but in 1915 he came to Scotch College and there commenced an association with the Littlejohn family, which continued till his death.

At this time Scotch College was under the headmastership of W. S. Littlejohn, and we who were at school in his time remember his gruff good nature and his ability to teach and understand boys. All who knew him paid tribute to his guidance both at school and later. "Old Bill" was a legend in his lifetime, and is remembered by all of us with the utmost affection, and the feeling that he instilled into us the principles of good conduct which stood us in good stead in after life.

In 1917 George commenced his medical course at the University of Melbourne, and was resident in Ormond College throughout his course. His sporting interest was rowing, and he represented his college in the crew. Always a good scholar, he shared the exhibition in anatomy in his third year, and in his final year in 1922 he obtained final honours, being tenth on the list. This was no mean achievement in a year which produced three pathologists of world renown—Sir Macfarlane Burnet, who was a lifelong friend, Professor

Sir Gordon Cameron, of University College, London, and Professor Rupert Willis. He was appointed resident medical officer to the Melbourne Hospital on graduation, and the next year was selected as one of the four registrars to that hospital.

In 1924 he was appointed resident medical officer to the Children's Hospital. The following year he went to England, and in 1926 obtained the diploma of M.R.C.P. (London). At this stage of his career he became interested in obstetrics and became a resident surgeon at Queen Charlotte's Hospital, and later he went on to pursue his studies at the Rotunda Hospital, Dublin.

In 1927 he returned to Melbourne and renewed his association with the Littlejohn family, joining the clinic in Ivanhoe, whose senior partner was Mr. C. W. B. Littlejohn, the eldest son of his late headmaster, the second son, Dr. E. Littlejohn, being also a member. This association was a very happy one and continued until his death. After a short time as a clinical assistant at the Women's Hospital, he was appointed to the out-patient gynæcological staff in 1932, thus commencing a period of service which lasted 27 years. This same year the University of Melbourne held its first examination for the diploma of gynæcology and obstetrics, and although already appointed to the hospital, George felt that he should sit for this diploma, so he settled down to work and obtained it in 1933 while still in active general practice. In 1935 he was elected as a member of the British College of Obstetricians and Gynæcologists (subsequently the Royal College of Obstetricians and Gynæcologists), and was elevated to fellowship of this College in 1951. He served on the State Committee of the College from 1955 to 1958.

During his long association with the Royal Women's Hospital, George Simpson served the hospital in both the gynæcological and the obstetrical departments, but obstetrics was always his great interest, and in 1949 when there was a rearrangement of the staff he elected to become an obstetrician to in-patients and held this position until his retirement in 1959. During this period he was chairman of the obstetric staff, and later chairman of the executive staff from 1954 to 1956 inclusive, and during this time he was a member of the board of management of the hospital. His last year as chairman of staff was a very onerous one, as it was the hospital's centenary, and an immense amount of organization had to be done, and many meetings had to be attended by him. The calls on his time in this year were legion, but he attended them with a spirit of cheerfulness which was an inspiration to us all.

George Simpson was a thoughtful and careful obstetrician with a special interest in the pre-natal care of the patient. This interest extended beyond the confines of the hospital, as from 1930 to 1952 he was honorary obstetrician to the ante-natal department of the Melbourne District Nursing Service. This department was quite sizeable, and one often had to deal with up to 40 patients in an afternoon without any other medical help.

In his early days in Hamilton he came into contact with the Reverend John Flynn, and when Flynn was moved to Central Australia, George became interested in the possibility of establishing an aerial medical service, and to the foresight of these two people we owe the existence and success of the Royal Flying Doctor Service of Australia. George Simpson held almost every position on the federal council of this body, and was actively associated with it from 1925 until his death. In 1946 he succeeded Sir James Barrett as secretary of the Victorian Bush Nursing Association, and maintained his association with this organization throughout.

During the second World War he joined the Royal Australian Air Force Medical Service in 1942, and was posted to No. 1 M.R.S., Darwin. In 1943 he was posted to No. 6 R.A.A.F. Hospital, Heidelberg, where he became my medical registrar, and I can safely say I never had a better officer under my command. His ability to get about twice as much work done unobtrusively in a given time as anyone else was a little short of miraculous. He was promoted to the rank of squadron leader, and when we were permitted to form a medical board at the hospital to expedite the discharge of unfit personnel, George was made the first president of this board, and it was largely owing to his unfailing care and attention to detail that this innovation proved such a success. He was associated with the St. John Ambulance Association from 1927, and was a Serving Brother of the Order of St. John of Jerusalem. In 1958 he was appointed to the Victorian Nursing Council, which replaced the Nurses' Board of Victoria, and with considerable reluctance accepted a position on the executive committee of this Council. His acceptance of this position entailed a lot of work, as the regulations and operation of the new Council had to be planned, and he remained on the executive until this initial work was completed last year. He was an examiner in obstetrics at the University of Melbourne from 1949 to 1959, and was for some years a member of the examining board for the diploma of gynæcology and obstetrics.

In 1957 his service to the community was recognized, and he was created an Officer of the Most Excellent Order of the British Empire. In 1931 he married Nesta, the daughter of Mr. and Mrs. Miller, of Kew, who with two daughters survives him.

Throughout his life George Simpson maintained an active interest in the Presbyterian Church, and for some years before his death he was an elder of Knox Memorial Church, Ivanhoe. Although he attained great eminence in his chosen profession, George remained modest and unassuming, ever striving to bring the best of medical service within the reach of all, and always bringing into his work his two most endearing characteristics, his innate kindness and his complete integrity.

DR. ALLAN VICKERS writes: The sudden and and untimely death of Dr. George Simpson on November 24, 1960, at the age of 61, was a grievous blow to his legion of friends and a severe loss to Australian medicine as a whole, but especially to the Royal Flying Doctor Service of Australia. I hope that others will write of his distinguished services

to the Royal Women's Hospital, Melbourne, of which at the time of his death he was Honorary Consulting Surgeon; of his work for the Victorian Bush Nursing Association, of which he had been honorary secretary for many years; and of his war service as Squadron-Leader R.A.A.F., because in those fields I was not associated with him.

My original contact with "Geordie" Simpson was in 1930, when I first became interested in the Flying Doctor experiment then being carried out by the Australian Inland Mission. From that time forward we were in close and constant association right up to the time of his death. He was one of the earliest colleagues of the immortal "Flynn of the Inland", and his devoted work, more than that of anyone else, was responsible for transforming into reality John Flynn's vision of combining medicine, aviation and radio to provide a medical service for isolated people. His quiet deliberation and consciousness of the needs of the present were a perfect complement for John Flynn's somewhat intoxicating enthusiasm and habit of thinking several years into the future, so that they made a splendid team.

George made many trips to remote parts of Australia, but possibly the most important was made in company with the Reverend J. Andrew Barber in 1927, when they drove a car more than 5000 miles, over some of the worst roads in Australia. The aim of the trip was to survey the various areas which were likely to be most suitable for the establishment of a pilot Flying Doctor Service. As a result of his report, Cloncurry was chosen as the site for the first base, which was opened in May of the following year.

Whilst he was at Cloncurry on the survey trip, news was received of a miner who had been seriously injured at Mt. Isa, which was then quite a small settlement without any local medical services whatever. Cloncurry was the nearest hospital, but the trip by road of 140 miles would have been a nightmare, with a possibly fatal outcome for the patient. Fortunately the weekly Qantas DH 50 airliner from Brisbane was at Cloncurry that day—it did not go any further; there was no air service to Darwin at that time. George seized the opportunity thus presented and chartered the Qantas machine to go to the patient and fly him back to Cloncurry. The patient travelled comfortably and made an uneventful recovery. This was the first occasion on which a doctor associated with the Flying Doctor Service brought in a patient by air. The value of the aeroplane for this purpose was proved for all to see.

After the establishment of the Flying Doctor Base at Cloncurry in May, 1928, the nation-wide financial depression and a disastrous local drought combined to embarrass the venture, and for several years it remained balanced on the knife-edge between success and failure. George visited the area again during this vital period, and his spirit of dogged resolution was an important factor in its survival.

Back home in Melbourne, he was in frequent touch with John Flynn, many of their discussions taking place in Geordie's home. In these discussions, I was privileged to join whenever I was in Melbourne. As we talked, Mrs. Flynn, an expert stenographer, would take down any points of importance which emerged from the conversation, whilst Mrs. Simpson provided the creature comforts in the way of drinks and supper. On the following morning Mrs. Flynn would have typed for each of us an excellent précis of the night's discussion. At these meetings, as the years passed, much of the future course of the Flying Doctor Service was plotted. If there is any one place which can be regarded as the spiritual home of the Service, it must surely be the home of George and Nesta Simpson.

When, in 1934, the Australian Inland Mission handed over its Flying Doctor activities to the national organization now known as the Royal Flying Doctor Service of Australia, George began the active leadership of the organization which continued until his death. As president, honorary secretary or honorary treasurer at various times of both the Victorian Section and the Federal Council, he exercised a continuing powerful influence on its development. His outlook was never parochial, but encompassed the whole of Australia and, indeed, countries beyond Australia which might possibly benefit from the introduction of Flying Doctor Service techniques. His unique experience and wise counsel were invaluable, and his passing leaves a gap which will be very hard to fill.

Geordie had a considerable capacity for making friends, and what a grand thing it was to be one of them! In the course of many years one usually finds in one's friends some evidence of those little faults of character or personality which, being human, we all possess. But in thirty years of close friendship I did not ever find any such fault in him. Perhaps he was faultless. However that may be, he has left an abiding memory of one of the finest men I have ever known—an outstanding doctor with the humility of the truly great, a devoted husband and father, a sterling friend, a great Australian and one of Nature's gentlemen.

PROFESSOR LANCE TOWNSEND writes: George Simpson had the distinction of being appointed a life member of the Bush Nursing Association in 1934, at the age of 33 years. This was a unique honour for one so young, as at present there are only 39 life members of the association; it is conferred on people who have given long, faithful and distinguished service to the association. He is the youngest man ever to be so honoured. At the same time he was appointed to the central council of the association and served on it continuously from 1934 until his death. He was so highly thought of that when the founder and first secretary of the association, Sir James Barrett, died in 1945, except for a short time when Professor R. Marshall Allan was secretary, George Simpson was appointed to take over the task of secretary. He continued in this office until his death. During this period some new Bush Nursing hospitals have been built and the remainder have been modernized, so that the standard of the medical and nursing care given and the facilities that are provided in the Bush Nursing hospitals and centres in Victoria has never been higher.

JOHN ROSS.

WE are indebted to DR. H. W. ANDERSON for the following additional contribution to the obituary notice of the late Dr. John Ross.

I would like to add a tribute to Dr. John Ross, whose obituary notice appeared in THE MEDICAL JOURNAL OF AUSTRALIA of March 25, 1961. I followed him in Herberton, and he was a hard man to follow. Cheerful, friendly and generous to a fault, he feared no man and no situation. He made an epic journey in the bush, to operate successfully on a lad on a station, who had acute osteomyelitis. He rode all day and most of the night, the guide feeling for the blaze on the trees, and John using the light of the fireflies to follow. I am sure he enjoyed every minute of it. He and his wife were much beloved in North Queensland.

H.W.A.

Post-Graduate Work.

THE MELBOURNE MEDICAL POST-GRADUATE COMMITTEE.

PROGRAMME FOR MAY, 1961.

THE Melbourne Medical Post-Graduate Committee announces that the following programme has been arranged for May, 1961.

Course in Radiodiagnosis.

A course in radiodiagnosis suitable for candidates for D.C.R.A. and D.D.R. will be conducted by the Melbourne Medical Post-Graduate Committee, in consultation with The College of Radiologists of Australasia, from May 1 until July 27, 1961. The course will consist of 24 lectures, held at 4.30 p.m. on Mondays and Thursdays. The fee for the course is £21, and enrolments, on their prescribed form, should be sent to the Committee at the address given below. A detailed time-table is available.

Physics.

A course in physics suitable for radiotherapists has commenced at the Commonwealth X-Ray and Radium Laboratory. Inquiries should be directed to the Committee.

Medicine.

A course in medicine suitable for candidates for the M.R.A.C.P. examination will be conducted by the staff of the Alfred Hospital for approximately eight weeks from June 5. This will be a full-time course, and the fee will be £31 10s., payable to the Committee, from which further details may be obtained.

Overseas Visitors.

Dr. E. Harry Bottrell, neurosurgeon, of Toronto Hospital, Canada, will visit Melbourne at the Committee's invitation for three weeks from April 22, during which he will visit hospitals and give the following two lectures at 8.15 p.m.

in the Medical Society Hall: Monday, May 1, "Strokes as the Neurosurgeon Sees Them"; Monday, May 8, "Cranio-Cerebral Injuries—Prevention and Treatment".

Professor Douglas Hubble, Professor of Pædiatrics, University of Birmingham, will be Guest Professor at the Royal Children's Hospital from May 1 to 13. He will lecture for the Committee in the Medical Society Hall at 8.15 p.m. on Thursday, May 4, on "Endocrine Relations".

The fees for attendance at the above-mentioned three lectures are at the rate of 15s., but those who have paid an annual subscription to the Committee are invited without further charge.

Dr. C. C. de Silva, Professor of Pædiatrics, Colombo University, may visit the Royal Children's Hospital from May 15 to 27.

Inquiries regarding the detailed programmes of Professor Hubble and Dr. de Silva should be addressed to the Dean of the Royal Children's Hospital.

Professor Bradley M. Patten, of the Department of Anatomy, University of Michigan, U.S.A., will visit Melbourne from April 26 till May 3. Details of his programme can be obtained from the Anatomy Department, University of Melbourne.

Country Courses.

Bendigo.—At Bendigo, on Friday, May 5, at 8 p.m., Mr. W. J. Rawlings will lecture on "Habitual Abortion". Dr. M. Clark, of 98 Mitchell Street, Bendigo, is the local secretary.

Sale.—On Saturday, May 6, at the Gippsland Base Hospital, the following course will be given: 2.30 p.m., "Surgery of Liver, Biliary System and Pancreas", Mr. N. Johnson; 3.30 p.m., "Electrolyte Management", Dr. J. Niall; 4.45 p.m., "Surgery of Hydronephrosis", Mr. J. Peters; 8 p.m., "Treatment of Common Fractures", Mr. B. Keon-Cohen. Dr. C. L. Willington, Cunningham Street, Sale, is the local secretary.

Ballarat.—On Thursday, May 25, at Craig's Hotel, Ballarat, at 8 p.m., Dr. D. F. Lawson will lecture on "Obstetrical Emergencies". Dr. I. C. Goy is the local secretary.

Fees.—Fees for the above-mentioned courses are at the rate of 15s. per lecture, but those who have paid an annual subscription to the Committee are invited without further charge.

Flinders Naval Depot.

At Flinders Naval Depot, on Wednesday, May 17, at 2.30 p.m., Mr. E. A. Allcock will talk on "Gastric Physiology and the Care of the Ulcer Patient".

Recorded Lectures.

The following recorded lectures, on 10 in. microgroove discs, accompanied by 2 in. by 2 in. slides, have been added to the Committee's library, and may be borrowed, without fee: "Treatment of Mental Illness in General Hospitals", by Dr. L. G. Kiloh, of Newcastle, U.K.; "Corticosteroid Therapy in Rheumatoid Arthritis: The Present Position", by Dr. Dudley Hart, of London; "Chemotherapy", by Professor W. F. Gaisford, pædiatrician, of Manchester.

Address.

The address of the Melbourne Medical Post-Graduate Committee is 394 Albert Street, East Melbourne. Telephone: FB 2547.

SEMINARS AT SYDNEY HOSPITAL.

The following seminars will be held at Sydney Hospital during May and June, 1961.

May 3: "Gall Stones and their Consequences", Professor John Hedley Atkins, Department of Surgery, Guy's Hospital, London, Sims Commonwealth Travelling Professor, 1961.

May 10: "Obesity and Coronary Heart Disease", Dr. H. M. Whyte (Clinical Research Unit).

May 17: "Hæmodynamic Determinants of Myocardial Oxygen Consumption and Coronary Flow", Dr. Eugene Braunwald, Section of Cardiology, Clinic of Surgery, National Heart Institute, Bethesda, Maryland, U.S.A.; R. T. Hall Lecturer, 1961, of the Cardiac Society of Australia and New Zealand.

May 24: "Chronic Lung Infections", Dr. W. G. Tellesson (Pulmonary Clinic).

May 31: "Diagnostic Radiology in Europe", Dr. H. G. Marsh, Department of Radiology.

June 7: "Some Aspects of Pancreatitis", Dr. A. A. Palmer and Dr. B. P. Billington (Gastro-Enterology Clinic).

June 14: "Anticoagulant Treatment—When Should it Cease?", Dr. Douglas Anderson, Royal North Shore Hospital.

June 21: "Penicillin", Dr. S. Fisher, and Dr. John Beveridge (by invitation, Kanematsu Institute).

June 28: "Cardiology in the U.S.S.R.", Dr. G. E. Bauer (Cardio-Vascular Clinic).

The seminars will be held on Wednesday at 2 p.m. in the Maitland Lecture Hall. They will be preceded by medical grand rounds at 12 noon and by a pathological demonstration ("organ recital") at 1.30 p.m.

Royal Australasian College of Surgeons.

FACULTY OF ANÆSTHETISTS.

Sims-Black Travelling Professor for 1961.

The Faculty of Anæsthetists of the Royal Australasian College of Surgeons announces that Professor T. Cecil Gray, Professor of Anæsthetics at Liverpool University and Sims-Black Travelling Professor for 1961, will be in Melbourne from April 24 to May 3, 1961. While in Melbourne Professor Gray will give the following lectures: Wednesday, April 26, 5 p.m., Royal Australasian College of Surgeons, "Post-Operation Apnœa and the Concept of Neostigmin-Resistant Curarization"; Friday, April 28, 1 p.m., Royal Melbourne Hospital, "Accident and Design in Surgery"; Monday, May 1, 8.15 p.m., Royal Australasian College of Surgeons, "The Concept of Depth in Anæsthesia".

Notes and News.

Animal Health Risk in Imported Food Items.

The Minister for Health, the Honourable D. A. Cameron, has appealed to Australians as a whole and migrants in particular to discourage friends and relatives overseas from sending them parcels containing any food item of animal origin. Dr. Cameron said that such parcels in practically every instance constituted a potential threat to Australia's livestock industry, which so far had been fortunate in escaping most of the major plagues of animals which occurred in other parts of the world. A major disaster of this kind could affect the entire Australian economy and every person in Australia, no matter what his occupation, would suffer to some degree. No friend of Australia would knowingly expose its livestock to the danger that would be involved in the introduction of diseases such as foot and mouth disease, swine fever or Newcastle disease of poultry, which had ravaged livestock in the United Kingdom, Europe, Africa and other countries.

Dr. Cameron said that the Customs Department, the Post Office and the shipping companies constantly cooperated with the Commonwealth Department of Health to prevent the private importation of items such as meat, salami, home-made cheese, cheese in urinary bladders, eggs and all foodstuffs prepared from animal products. Migrants' nostalgic affection for such food was appreciated and understood. The point was that the risk to Australia's national prosperity was too grave to permit exceptions to her strict quarantine rules.

Dr. Cameron said he would like to add a friendly warning to migrants. It was that Customs officers were quite well aware that curious devices were sometimes used to "smuggle" food items through. It was a popular but quite profitless device, for example, to place salami in an inner chamber inside what otherwise appeared to be only a tin of cooking oil. Those and other "tricks" were all well known to Customs. Although legal penalties were provided, the Government would much prefer that migrants refrain of their own free will from attempting to import products which were potentially harmful to their adopted homeland.

World Federation for Mental Health: World Mental Health Year.

World Mental Health Year, 1960, which was initiated by the World Federation for Mental Health, will come to an end at the time of the Sixth International Congress on Mental Health to be held in Paris, on August 30 to

September 5, 1961. A considerable number of new projects have been initiated or carried out during the period of the World Mental Health Year in some 55 countries. For the sake of the records, the Secretariat of the Federation at 19 Manchester Street, London, W.1, would be glad to be informed of any special activity undertaken because of World Mental Health Year of which they have not already been notified. Information about the Sixth International Congress on Mental Health may be obtained from the following addresses: *Ligue française d'hygiène mentale,* 11 rue Tronchet, Paris VIII^e^, France; World Federation for Mental Health, 19 Manchester Street, London, W.1, England; World Federation for Mental Health, 162 East 78th Street, New York 21, N.Y., U.S.A.

Naval, Military and Air Force.

APPOINTMENTS.

THE following appointments, changes, etc., are published in the *Commonwealth of Australia Gazette,* No. 22, of March 9, 1961.

NAVAL FORCES OF THE COMMONWEALTH.

Permanent Naval Forces of the Commonwealth (Sea-Going Forces).

Termination of Appointments.—The appointment of John Ward Little as Surgeon Lieutenant (for Short Service) is terminated, dated 19th August, 1960.

Emergency List.

Transfers to the Retired List.—Surgeon Commander Hill Gillman Wells is transferred to the Retired List, dated 26th September, 1960.

Citizen Naval Forces of the Commonwealth.

Royal Australian Naval Reserve.

Lieutenant David Stuart Gibson, Royal Australian Naval Volunteer Reserve, is appointed Surgeon Lieutenant, with seniority in rank of 20th December, 1952, dated 7th October, 1960.

Resignation.—The resignation of Thomas Neville Hayes of his appointment as Surgeon Lieutenant is accepted, dated 26th October, 1960.

Royal Australian Naval Volunteer Reserve.

Appointments.—Surgeon Lieutenant-Commander Desmond Albert Cooper, Royal Australian Naval Reserve, is appointed Surgeon Lieutenant-Commander, with seniority in rank of 9th October, 1956, dated 29th August, 1960.

Australian Medical Board Proceedings.

NEW SOUTH WALES.

THE following additions and amendments have been made to the Register of Medical Practitioners for New South Wales, in accordance with the provisions of the *Medical Practitioners Act,* 1938-1958.

Registered medical practitioners who have complied with the requirements of Section 17 (3) and are registered under Section 17 (1) (*a*) of the Act, registration being M.B., B.S., 1961 (Univ. Sydney), unless otherwise stated: Anderson, Stanley Turtle; Barnett, Graham McAlpine; Barry, Benedict John; Basil, William; Biggs, Margaret; Bird, Beverley Ann; Bolliger, Peter Adolph; Bourke, John Robert; Branson, John Alexander; Brauer, Joseph Gabriel; Brender, David; Brotchie, Marcia Jean; Castle, Cedric Victor; Chee, Cheng Day; Cheung, Hin Yee; Chok, Thomas; Claxton, Robert Charles; Coffey, Geoffrey Leo; Collins, Geoffrey Michael; Collison, David Robert; Condoleon, George; Craddock, Mark Christopher James; Cullen, Charles Richard; Cullen, Edward Kevin; Cumming, Richard; Curran, Donald Alexander; Curteis, Owen Gregan; Czerny, Cornel; Daly, Michael Xavier; Deacon, Michael John; Deck, Michael David; Despas, Paul Jules; Diamond, Robert Andrew; Dick, Robert; Douglas, Godfrey; Douglas, James Neale; Downs, John Maxwell; Dubois, Reuben Stafford; Edwards, Jean Rosa; Evans, Elaine Ruth Myfanwy; Everett, Ian

DISEASES NOTIFIED IN EACH STATE AND TERRITORY OF AUSTRALIA FOR THE WEEK ENDED MARCH 18, 1961.[1]

Disease.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Northern Territory.	Australian Capital Territory.	Australia.
Acute Rheumatism	..	..	2(1)	..	..	..	..	..	2
Amœbiasis	..	..	..	..	..	..	..	..	..
Ancylostomiasis	2	..	..	..	..	..	8	..	10
Anthrax	..	..	..	..	..	..	..	..	..
Bilharziasis	..	..	..	..	..	..	..	..	..
Brucellosis	..	..	..	..	..	..	..	..	..
Cholera	..	..	..	..	..	..	..	..	..
Chorea (St. Vitus)	..	..	..	..	..	..	..	..	..
Dengue	..	..	..	..	..	..	..	..	..
Diarrhœa (Infantile)	2	9(8)	5(4)	..	..	..	1	..	17
Diphtheria	..	..	..	..	..	..	..	..	..
Dysentery (Bacillary)	..	..	..	1(1)	1	..	1	..	3
Encephalitis	4(4)	..	..	1(1)	..	..	..	..	5
Filariasis	..	..	..	..	..	..	..	..	..
Homologous Serum Jaundice	..	..	..	..	..	..	..	..	..
Hydatid	1	..	..	..	..	..	..	..	1
Infective Hepatitis	126(60)	57(27)	24(5)	27(10)	6(4)	5(1)	..	4	249
Lead Poisoning	..	..	1	..	..	..	..	..	1
Leprosy	..	..	1	..	1	..	..	..	2
Leptospirosis	..	..	1	..	..	..	..	..	1
Malaria	..	..	2(1)	..	..	..	..	..	2
Meningococcal Infection	1(1)	..	..	..	..	..	1	..	2
Ophthalmia	..	..	..	..	7(6)	..	..	..	7
Ornithosis	..	..	..	..	..	..	..	..	..
Paratyphoid	..	..	1	..	..	..	..	..	1
Plague	..	..	..	..	..	..	..	..	..
Poliomyelitis	1(1)	2	1	..	..	1	..	..	5
Puerperal Fever	1	..	..	..	..	..	..	..	1
Rubella	..	7(5)	1(1)	1	7(6)	..	..	..	16
Salmonella Infection	..	..	..	..	..	..	1	..	1
Scarlet Fever	3(2)	2(2)	..	5(2)	..	2	..	..	12
Smallpox	..	..	..	..	..	..	..	..	..
Tetanus	..	..	1	..	..	..	..	..	1
Trachoma	..	..	..	..	3(2)	..	..	..	3
Trichinosis	..	..	..	..	..	..	..	..	..
Tuberculosis	19(10)	9(6)	10(5)	5(2)	4(4)	1	..	1	49
Typhoid Fever	..	..	..	..	..	..	..	..	..
Typhus (Flea-, Mite- and Tick-borne)	..	..	..	..	1	..	..	..	1
Typhus (Louse-borne)	..	..	..	..	..	..	..	..	..
Yellow Fever	..	..	..	..	..	..	..	..	..

[1] Figures in parentheses are those for the metropolitan area.

Alexander; Ferguson, Brian James; Fisher, John William; Forrest, Jill Mary Susan; Freeman, Susanne; Friend, James Colin McLeod; Furey, Philip Michael; Goldstein, Imre Frank; Graham, Henry Claude; Grauaug, Alfred; Hamilton, Peter; Hammett, John Frederick; Hampson, Roger; Hayes, James Michael; Heath, Peter; Hempel, Margaret Evelyne; Hill, John Hamilton; Hillyar, David Mends; Hipwell, Geoffrey Carl; Hon, Kelvin Richard; Honner, Richard Michael; Horner, George John; Howard, Rae Arden; Hunt, Phillip Sydney; James, Alexander Carey; James, Allan; Jarrett, James Edward; Jerogin, George Michael; Johnsen, Julie Kay; Jollow, Frederick Cecil Donald; Jones, Brian Montford; Jones, Warren Ross; Kashyap, Suraj Bali; Kater, Roderick Murchison Hume; Lai, Kai May; Lam, Chok Hin; Lawrence, Donald Elwell Hewetson; Lewis, Alan; Leyton, Harry; Lim, Kitty Bee Hwa; Little, Kenneth John; Lucas, William Ewart; Lumley, Frank; Lynch, Annette Mary; McEvilly, John Richard Regan; McGuiness, Robert Thomas; McMahon, Ruth Margaret; McSwiggan, William Edward; MacAuliffe, Cameron Keith; Macindoe, Neil Arnold; Macoun, Mary Louise; Madell, Gordon William Mills; Maher, Peter William Odillo; Marsh, Michael John Reginald; Marshall, John Stuart; Mathieson, Philip Llewellyn; Maynard, David Stanley; Menser, Margaret Anne; Mercer, Ronald John; Mitchell, Anthony Stewart; Molloy, William Boyd; Moroney, Neil Stanley; Mowles, Joan Gladys; Muller, Stephen; Munro, Vincent Frederick; Nicholls, Alan George; Nichols, Michael David Samuel; Niesche, Frederick Westwood; Nixon, Peter Frank; Oldfield, Leslie John; Ong, Thomas Kok Fong; Owen, Susie; Pauline, Gregory John; Payne, Joan Marcia; Penfold, James Lawrence; Perlman, Max; Phillips, Constantine Nicholas; Post, John Stewart; Prineas, Ronald James; Quek, Kai Yan; Quilter, John Michael; Raven, John Lindsay; Reiss, Elizabeth Anita; Reitberger, Claude; Robinson, Lyon Phillip; Robinsohn, Jael Varditha; Rochford, Michael Joseph; Rogers, John Harry; Rowland, Edward John; Ruscoe, Warwick John; Sawers, John; Shea, Peter Barry; Shephard, Douglas Alexander Royden; Sheridan, Brian Francis; Singh, Ram Pal; Soon, Roy Siew Pheng; Spencer, Ronald Brian; Spivey, John Edward; Springthorpe, Barry John; Starr, Raymond Clifton; Stathers, George Meredith; Stening, George Frank Hugh; Stephenson, John Brian Ensor; Stuart, Malcolm; Sullivan, John Francis; Swain, Anthony William; Tai, Edmond Hon-Chuen; Tarlinton, John Anthony Richard; Tauro, Geoffrey Phillip; Thomas, Ian Wycliffe; Thorpe, Peter Cecil; Tischler, Erhard; Torok, Elizabeth; Uberall, Joanna Magda; Uren, David Henry; Utley, Graham Leonard; Venclovas, Irvis Romualdas; Walker, Michael John; Walker, Warren David; White, Saxon William; Williamson, Peter MacArthur; Wilson, Donald Richard; Wooster, Arthur George; Yeo, Bryan Wheaton; Young, Robert Warren; Zipser, Gabriel; Zylstra, Wim; Ahern, Edgar Joseph, M.B., B.S., 1958 (Univ. Queensland); Birchley, Ian Keith, M.B., B.S., 1947 (Univ. Queensland); Hodgkinson, Bernard John, M.B., B.S., 1959 (Univ. Melbourne).

Registered medical practitioners who have complied with the requirements of Section 17 (3) and are registered under Section 17 (1) (*b*) of the Act: Anderson, Frederick Edwin, M.B., B.Ch., 1953 (Queen's Univ., Belfast), M.D., 1958 (Queen's Univ., Belfast); Bennett, William Duncan, M.B., Ch.B., 1952 (Univ. Edinburgh); Fine, Ronald David, M.R.C.S., England, L.R.C.P., London, 1951, M.R.C.P., Edinburgh, 1958; Heslop, Ronald, M.B., B.S., 1958 (Univ. Durham); Jelliffe, Robin Stewart, M.B., B.S., 1950 (Univ. London); Mahood, Thomas Verner, L., L.M., R.C.P. & S. Ireland, 1935; Metcalf, William Louis, M.B., B.S., 1954 (Univ. Durham).

Registered medical practitioner who has complied with the requirements of Section 17 (3) and is registered under Section 17 (2) (*a*) of the Act: Pal, Istvan Antal, M.D., 1952 (Univ. Budapest).

The following have been issued with a licence under Section 21A of the Act: Colja, Michael, for one year from March 1, 1961; Kanarek, Maksymilian, for one year from March 25, 1961.

The following has been issued with a licence under Section 21c (3) of the Act: Fischer, Ottomar, for one year from March 20, 1961.

Nominations and Elections.

THE undermentioned has applied for election as a member of the New South Wales Branch of the British Medical Association:

Henson, Ross William, M.B., B.S., 1955 (Univ. Sydney), 52 Victoria Street, Grafton.

Diary for the Month.

APRIL 26.—Victorian Branch, B.M.A.: Branch Council.
APRIL 26.—New South Wales Branch, B.M.A.: Hospitals Committee.
APRIL 27.—New South Wales Branch, B.M.A.: Branch Meeting.
APRIL 27.—South Australian Branch, B.M.A.: Listerian Oration.
APRIL 28.—Queensland Branch, B.M.A.: Council Meeting.
MAY 2.—New South Wales Branch, B.M.A.: Organization and Science Committee.
MAY 3.—Western Australian Branch, B.M.A.: Branch Council.
MAY 3.—Victorian Branch, B.M.A.: Clinical Meeting (at the Austin Hospital).
MAY 4.—South Australian Branch, B.M.A.: Council Meeting.
MAY 9.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
MAY 11.—New South Wales Branch, B.M.A.: Public Relations Committee.
MAY 12.—Queensland Branch, B.M.A.: Council Meeting.
MAY 15.—Victorian Branch, B.M.A.: Finance Sub-Committee.
MAY 16.—New South Wales Branch, B.M.A.: Medical Politics Committee.
MAY 17.—Western Australian Branch, B.M.A.: General Meeting.

Medical Appointments: Important Notice.

MEDICAL PRACTITIONERS are requested not to apply for any appointment mentioned below without having first communicated with the Honorary Secretary of the Branch concerned, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

New South Wales Branch (Medical Secretary, 135 Macquarie Street, Sydney): All contract practice appointments in New South Wales.

South Australian Branch (Honorary Secretary, 80 Brougham Place, North Adelaide): All contract practice appointments in South Australia.

Editorial Notices.

ALL articles submitted for publication in this Journal should be typed with double or treble spacing. Carbon copies should not be sent. Authors are requested to avoid the use of abbreviations, other than those normally used by the Journal, and not to underline either words or phrases.

Authors of papers are asked to state for inclusion in the title their principal qualifications as well as their relevant appointment and/or the unit, hospital or department from which the paper comes.

References to articles and books should be carefully checked. In a reference to an article in a journal the following information should be given: surname of author, initials of author, year, full title of article, name of journal, volume, number of first page of article. In a reference to a book the following information should be given: surname of author, initials of author, year of publication, full title of book, publisher, place of publication, page number (where relevant). The abbreviations used for the titles of journals are those of the list known as "World Medical Periodicals" (published by the World Medical Association). If a reference is made to an abstract of a paper, the name of the original journal, together with that of the journal in which the abstract has appeared, should be given with full data in each instance.

Authors submitting illustrations are asked, if possible, to provide the originals (not photographic copies) of line drawings, graphs and diagrams, and prints from the original negatives of photomicrographs. Authors who are not accustomed to preparing drawings or photographic prints for reproduction are invited to seek the advice of the Editor.

Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary is stated.

All communications should be addressed to the Editor, THE MEDICAL JOURNAL OF AUSTRALIA, The Printing House, Seamer Street, Glebe, New South Wales. (Telephones: MW 2651-2-3.)

Members and subscribers are requested to notify the Manager, THE MEDICAL JOURNAL OF AUSTRALIA, Seamer Street, Glebe, New South Wales, without delay, of any irregularity in the delivery of this Journal. The management cannot accept any responsibility or recognize any claim arising out of non-receipt of journals unless such notification is received within one month.

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